



AGRICULTURAL RESEARCH INSTITUTE
PUSA

TRANSACTIONS
OF
THE HIGHLAND AND AGRICULTURAL
SOCIETY OF SCOTLAND

WITH

AN ABSTRACT OF THE PROCEEDINGS AT BOARD AND GENERAL
MEETINGS, AND THE PREMIUMS OFFERED BY
THE SOCIETY IN 1907

PUBLISHED ANNUALLY



FIFTH SERIES

VOL. XIX

EDITED BY JAMES MACDONALD, F.R.S.E., SECRETARY TO THE SOCIETY

EDINBURGH:
WILLIAM BLACKWOOD & SONS, 45 GEORGE STREET
AND 37 PATERNOSTER ROW, LONDON

1907

WORKS ON AGRICULTURE, &c.

JOURNAL OF AGRICULTURE, AND TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

Second Series, 1828 to 1843, 21 vols.—*out of print*.

Third Series, 1843 to 1865, 22 vols.—*out of print*.

INDEX TO THE FIRST, SECOND, AND THIRD SERIES OF THE TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND FROM 1799 TO 1865. Cloth, 5s.

TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND. Fourth Series, 1866-71, 6 numbers, sewed, 4s. each; 1872-88, 17 volumes, cloth, 5s. each. Vols. for 1878 to 1883 *out of print*.

INDEX TO THE FOURTH SERIES OF THE SOCIETY'S TRANS- ACTIONS FROM 1866 TO 1888, bound in cloth, 3s.

TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND. Fifth Series, 1889-1907, 19 volumes, bound in cloth, 5s. each. Vols. for 1889, 1893, 1894, 1899 to 1901, 1905 *out of print*.

INDEX TO THE FIFTH SERIES OF THE SOCIETY'S TRANS- ACTIONS.

From 1889 to 1895, paper cover, 1s.

From 1896 to 1902, paper cover, 1s.

REPORT ON THE PRESENT STATE OF THE AGRICULTURE OF SCOTLAND, ARRANGED UNDER THE AUSPICES OF THE HIGHLAND AND AGRICULTURAL SOCIETY. Presented at the International Agricultural Congress at Paris in June 1878. Cloth, 5s. *Free to Members on application to the Secretary.*

DICTIONARIUM SCOTO - CELTICUM: A DICTIONARY OF THE GAELIC LANGUAGE, in two volumes. Compiled and published under the direc- tion of the Highland Society of Scotland, 1828. Bound in cloth, £7, 7s.; 6 copies on extra paper, £10, 10s.

PRACTICAL REMARKS ON AGRICULTURAL DRAINAGE. By WILLIAM W. HOZIER of Tannochside. Prize Report, published under the auspices of the Society, 1870. Cloth, 1s.

HUMANITY TO ANIMALS, BEING EXTRACTS FROM PRIZE ESSAYS ON THE MOST EFFECTUAL METHOD OF INCULGATING THAT DUTY IN ELEMENTARY SCHOOLS. Published under the auspices of the Society. Sewed, 3d.

HISTORY OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND, WITH NOTICES OF ANTERIOR SOCIETIES FOR THE PROMOTION OF AGRICULTURE IN SCOTLAND. By ALEXANDER RAMSAY, LL.D. Demy 8vo, cloth, 16s.

THE PINE BEETLE (HYLESINUS PINIPERDA L.) By W. SOMERVILLE, D.Ec., B.Sc. Prize Report. Sewed, 3d.

*The above Works can be had on application to WILLIAM BLACKWOOD & SONS,
45 George Street, Edinburgh, and 37 Paternoster Row, London.*

CONTENTS

	PAGE
1. THE FUTURE OF BRITISH WOODLANDS. By the Right Hon. SIR HERBERT MAXWELL, Bart. (<i>Illustrated</i>)	1
2. LAND AS AN INVESTMENT. By R. E. TURNBULL	24
3. THE BOOMING OF FRUIT-GROWING. By WILLIAM E. BEAR	46
4. THE CHEMICAL COMPOSITION OF BUTTER. By CHARLES CROWTHER, M.A., Ph.D.	55
5. EXPERIMENTS IN CROSSING POTATOES. By JOHN H. WILSON, D.Sc., F.R.S.E. (<i>Illustrated</i>)	74
6. CHEAP COTTAGES. (<i>Illustrated</i>)	93
7. THE ROYAL AGRICULTURAL COLLEGE, BERLIN. By JAMES HENDRICK, B.Sc., F.I.C. (<i>Illustrated</i>)	97
8. DAIRY INVESTIGATIONS IN THE NORTH-EAST OF ENGLAND. INFLUENCE OF FOOD ON MILK YIELD. By DOUGLAS A. GILCHRIST and C. BRYNER JONES	114
9. POISONOUS BEANS. By JAMES HENDRICK, B.Sc., F.I.C.	139
10. ANALYSES FOR MEMBERS DURING 1906. By JAMES HENDRICK, B.Sc., F.I.C.	145
11. SHEEP ON ARABLE FARMS. By JAMES WYLLIE	147
12. FARMING METHODS IN LANARKSHIRE. By ARCHD. MACNEILAGE	161
13. TRIALS OF OATS. By JOHN SPEIR	177
14. ON SOME INJURIOUS INSECTS IN 1906. By Dr R. STEWART MACDOUGALL, M.A.	178
15. MILK RECORDS. FOURTH SEASON—GIVING THE YIELD IN MILK AND BUTTER-FAT OF 2688 COWS. By JOHN SPEIR	189
16. CLYDESDALE MEMORIES. THE OLDER SCHOOL OF CLYDESDALE HORSE BREEDERS: THEIR HORSES, IDEAS, AND METHODS. By THOMAS DYKES	219

17. THE CEREAL AND OTHER CROPS OF SCOTLAND FOR 1906, AND METEOROLOGY OF THE YEAR RELATIVE THERETO—	
The Crops	262
The Meteorology. By ALEXANDER BUCHAN, LL.D., F.R.S.	281
18. AGRICULTURAL STATISTICS	291
19. PRICES OF GRAIN IN EDINBURGH MARKET FOR 1906	304
20. PRICES OF SHEEP SINCE 1818	311
21. PRICES OF WOOL SINCE 1818	313
22. GENERAL SHOW AT PEEBLES, 1906. (<i>Illustrated</i>)	315
23. PREMIUMS AWARDED BY THE SOCIETY IN 1906	337
24. ACCOUNTS OF THE SOCIETY FOR 1906	373
25. PROCEEDINGS AT THE SOCIETY'S BOARD AND GENERAL MEETINGS	382

APPENDIX A.

PREMIUMS OFFERED BY THE SOCIETY IN 1907	1
---	---

APPENDIX B.

LIST OF MEMBERS OF THE SOCIETY	1
--	---

INDEX	at end
-----------------	--------

* * *It is to be distinctly understood that the Society is not responsible for the views, statements, or opinions of any of the Writers whose Papers are published in the 'Transactions.'*

ILLUSTRATIONS

FIG	PAGE	FIG	PAGE
1 Forest of Douglas Fir and Thuya at Benmore, Argyllshire	2	26 Felling in a French Forest of Silver Fir	15
2 Forest of Douglas Fir and Thuya at Benmore, Argyllshire	2	27 Oaks in Cudzow Park	15
3 Fir ruined by isolation	3	28 Natural Regeneration in the New Forest Self sown young oaks are seen within the fence the unprofitable ground out side bearing no seedlings	16
4 The Major Oak Sherwood Forest	3	29 Self sown Trees on protected ground at Ashridge	16
5 Wych Elm at Sharpham, Devon	4	30 Scots Pine at Colesborne	17
6 Horse Chestnut, Skene House	5	31 Spruce and Larch, 110 120 feet high at Colesborne	17
7 The Copon Oak, Jedburgh	5	32 Spruce and Larch at Colesborne	18
8 Well grown Oak New Forest	6	33 Spruce and Larch in French Forest	18
9 Self sown Oak at Thoinbury Gloucestershire	6	34 Silver Fir in French Forest	19
10 Natural Regeneration, Ashamp stead Common	7	35 Silver Fir and Larch in French Forest	19
11 Self sown Ash, Buckhold Banks	7	36 Spruce and Larch at Dunkeld	20
12 Self sown Beech Inveraray	6	37 The 'Earl's Tree' at Castle Grant	20
13 French Oak Forest ripe for felling	8	38 Scots Pines Ballochbuie	21
14 French Oak Forest, three years after first felling	9	39 The oldest Larches in Scotland, Dunkeld	21
15 Oak Saplings in French Forest	4	40 In the Tyrol	22
16 Oak Saplings in French Forest	10	41 Axillary tuber development caused by the early removal of a number of underground tubers	74
17 French Oak Forest, first felling	10	42 Mature tuber sprouting	75
18 Final Felling of French Oak Forest	11	43 Seedling potato, to show method of development of first tubers, c, seed leaf	92
19 Final Felling of French Oak Forest	11		
20 Park Scenery at Ashridge	12		
21 Park Scenery at Ashridge	12		
22 Park Scenery at Ashridge	13		
23 Park Scenery at Ashridge	13		
24 Park Scenery at Ashridge	14		
25 Felling in a French Forest of Silver Fir	14		

FIG.	PAGE	FIG	PAGE
44. Seedling potato. to illustrate diversity of tuber-producing power: <i>c</i> , seed-leaf; <i>d</i> , first tuber-bearing branch . . .	82	62. Shorthorn Bull, "Meteor" (86,631) . . .	317
45. Field of British Queen, in flower	83	63. Aberdeen-Angus Cow, "Juana Erica" (86,285) . . .	317
46. <i>a</i> , British Queen; <i>e</i> , Myatt's Kidney: <i>b</i> , <i>c</i> , <i>d</i> , progeny . . .	83	64. Galloway Bull, "Campfollower 3rd of Stepford" (8407) . . .	318
47. Kate Kennedy (British Queen × Myatt's Kidney) . . .	84	65. Highland Bull, "Lord Clyde" (2084) . . .	318
48. Bejant (British Queen × Myatt's Kidney) . . .	84	66. Ayrshire Cow, "Lady Diana" (16,726) . . .	319
49. Fruits secured by crossing Red Potato (New Zealand variety) with Myatt's Kidney . . .	86	67. Clydesdale Colt, "Scottish Crest" (13,182) . . .	319
50. Prior (Red variety × Myatt's Kidney) . . .	87	68. Draught Gelding, "Best of All" . . .	320
51. Single row of Prior, as lifted . . .	88	69. Clydesdale Mare, "Pyrene" . . .	320
52. Unnamed seedling (Red variety × Myatt's Kidney) of undesirable form . . .	89	70. Hunter Gelding, "Ireland" . . .	321
53. <i>a</i> , Maincrop; <i>d</i> , Red variety; <i>b</i> , <i>c</i> , progeny . . .	89	71. Hackney Colt, "Copmanthorpe Performer" . . .	321
54. Rector (Red variety × Maincrop)	90	72. Pony Stallion, "Sir Archie" . . .	322
55. On the left. leaf and flower of <i>Solanum tuberosum</i> var.; on the right. <i>S. Commersonii</i> . . .	91	73. Polo Pony Stallion, "White Mask" (190) . . .	322
56. Fruits of <i>Solanum Commersonii</i> in the top row; <i>S. tuberosum</i> var. in the bottom row . . .	92	74. Cob Mare, "Coronation" . . .	323
57. Motel Cottage erected at Raith for £150 . . .	94	75. Highland Pony Stallion, "Mac-Neil" . . .	323
58. Ground-Plan . . .	95	76. Shetland Pony Stallion, "Bellman" . . .	324
59. Section at A, B, with Scale . . .	96	77. "Langton Gelding" in harness . . .	325
60. Royal Agricultural College, Berlin—Main Building . . .	98	78. Blackface Shearling Tup . . .	326
61. Machinery Hall, Royal Agricultural College, Berlin . . .	109	79. Cheviot Shearling Tup . . .	326
		80. Border Leicester Tup, "Pitlivia Brilliant" . . .	327
		81. Half-bred Shearling Tup . . .	327
		82. Shropshire Tup . . .	328
		83. Oxford-Down Shearling Tup . . .	328
		84. Suffolk Ewe Lambs . . .	329
		85. Large White Sow, "Walton Beauty" (13,088) . . .	329

TRANSACTIONS
OF
THE HIGHLAND AND AGRICULTURAL
SOCIETY OF SCOTLAND

THE FUTURE OF BRITISH WOODLANDS.

By the Right Hon. Sir HERBERT MAXWELL, Bart.

THE rapid diminution in the visible supply of timber in the world and the simultaneous and enormous increase in consumption have combined to force the economic importance of forests and woodlands upon the attention of most civilised Governments. State action has been taken in Germany, France, Belgium, Sweden, and Russia, and private enterprise has not been wanting in all these countries.

Specially noteworthy is the far-sighted policy both of the Government and of private owners of woodland in Germany. The average annual value of the produce of German forests is estimated at about £22,000,000, notwithstanding which Germany has for some years back been importing timber at the rate of 4,500,000 tons per annum, valued at nearly £15,000,000. Now Germany at no distant date was one of the principal sources of our own timber imports: how comes it that she has not only ceased to export, but has become such a large customer in foreign markets? For two reasons: first, because of the enormous recent expansion of German industry; and, second, because so long as she can obtain timber at a reasonable price abroad, her people spare their own forests, well knowing that, at no distant date, the price of timber *must be enormously enhanced*, and that every cubic foot added to the standing crop will be doubled or trebled in value.

In view of these conditions, what are we doing in Great Britain and Ireland to meet the coming scarcity by developing

our resources? In truth, we have hardly passed the stage of inquiry. Forestry operations are notoriously slow, but surely a quarter of a century is an exorbitant draft upon time to be spent upon inquiry. During the five-and-twenty years when I was in Parliament, two committees were appointed by the Government to inquire into the condition of British forestry and to recommend means for its

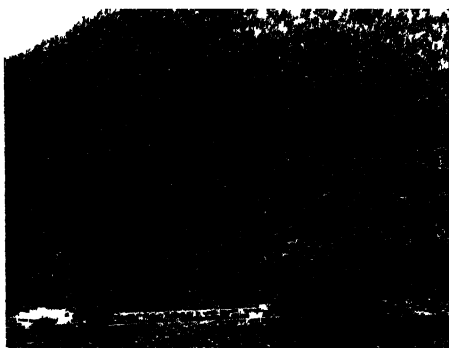


Fig. 1.—Forest of Douglas Fir and Thuja at Benmore, Aigylshire.

improvement. Both of these reported that large areas of waste land were available for forestry purposes, and recommended that provision should be made for sound technical instruction in wood-craft. A single sentence from the report of the later committee will suffice to give anxious thought to anybody who concerns himself about our commercial future—

“The world is rapidly approaching a shortage, if not an actual dearth, in its supply of coniferous timber, which constitutes between 80 and 90 per cent of the total British timber imports.”

Time is slipping away, and, although the Board of Agriculture and the Commissioners of Woods

and Forests have been looking about for suitable land upon which to commence systematic State forestry, they have not

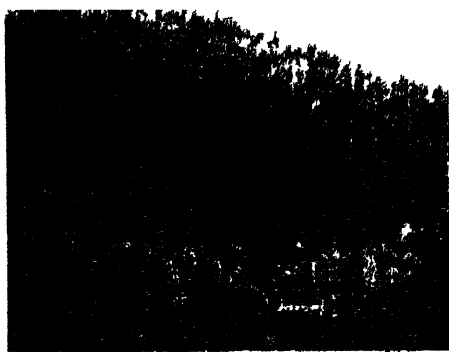


Fig. 2.—Forest of Douglas Fir and Thuja at Benmore, Aigylshire.

secured a single acre. It is true that a forest school has been started in the Forest of Dean, that a forestry branch has been added to some of the Colleges of Agriculture, and that the University of Edinburgh has provided instruction in forestry for a number of years past. This is good so far as it goes, but it is a mere nibble at a great subject, and nibbling in such matters is a costly process. The Government should be to the nation what officers are to their men. It is no use saying "Go on!" they must set the example and cry "Come on!" Against all that the State has done must be set the direct dis-

couragement to private enterprise imposed by the rating of growing woodland before it can yield a penny of revenue, as enacted in 1874, and by the Act of 1894, which caused growing wood to be valued for death duties "in such manner and by such means as the Commissioners think fit."

In order to bring a survey of this big subject into reasonable limits, I shall dispose of it under five heads—

1. The Consumption of Timber and Wood Products in the United Kingdom.

2. British Climate and Soil.

3. Present Condition of British Woodlands.

4. What the State may do.

5. What Private Owners may do.



Fig 3 — *Fir* ruined by isolation.



Fig 4 — *The Major Oak*, Sherwood Forest.

1. *The Consumption of Timber and Wood Products in the United Kingdom.*

The following table shows the immense scale upon which we import, and the vast increase in annual consumption during the last twenty years:—

IMPORTS TO UNITED KINGDOM	1882	1902.
<i>Wood and timber—</i>	£	£
Hewn	5,200,000	5,400,000
Sawn	10,800,000	17,100,000
Manufactured	300,000	1,400,000
	16,300,000	23,900,000
<i>Wood products—</i>		
Paper, mostly made of wood pulp .	1,200,000	4,500,000
Paper materials, mostly wood pulp .	2,000,000	3,300,000
	19,500,000	31,700,000

But, it may be said, a great deal of this foreign wood could not be grown in this country. Not so much as might be supposed. Of the total value of timber imported in 1902—namely, £23,900,000—about £19,000,000 worth was coniferous timber

such as, I hope to show, might be grown in the British Isles under a proper system of forestry. So also might be produced the £8,000,000 worth of paper and paper material which we imported in 1902, for pulp wood is far easier grown than mature timber; but there is not a single pulping mill or cellulose factory in the United Kingdom.



Fig 5.—*W al Elm at Shinglon, Ichn*

“The first wood-pulp factory was started in Saxony about 1854, and the first cellulose factory about 1874. There are

now in Germany alone, to say nothing of Austria, Sweden, and Norway, over 600 pulp mills using nearly 36,000,000 cubic feet of wood [per annum], and 71 cellulose factories consuming about 30,000,000 cubic feet. And these are still comparatively new industries, capable of enormous expansion, and likely in time to raise the price of the softer woods suited for this trade—willow, poplar, birch, lime, and the softer conifers.”¹

¹ ‘The Forester,’ by John Nisbet (1905), vol. i. p. 85.

A sad want of enterprise, it may be thought, in British capitalists that none of them has ventured to erect a pulping mill, which have proved such an excellent investment in foreign countries, and the produce of which is so essential to British manufactures. It would be an act of inordinate folly to go to the expense of erecting a pulping mill in this country until security could be had for a liberal and *regular* supply of wood for pulping. That is precisely what cannot be secured under our present want of system. A mill might be erected and run bravely for two or three years maybe; then suddenly the supply would cease, because no neighbouring landlord had any wood to fell,



Fig 6—Horn Chestnut, Glen House



Fig 7—The Capon Oak, Jubbburgh

or because nobody was disposed to fell the wood he had on his property.

Similar uncertainty in supply is the cause of disappointment in all branches of the home timber trade. Despite the incessant and growing demand for timber, the complaint is commonly heard from landowners that they cannot dispose of fine timber even when it is offered. Last summer I visited an Irish

estate famous for the beauty and rarity of some of its trees. The owner complained to me that he had been unable to get more than 3s. 6d. a ton for a lot of fine Scots pine, eighty to ninety years old, which he had felled. Now a ton of mature

Scots pine contains from 28 to 30 cubic feet; my friend, therefore, was disposing of timber at $1\frac{1}{2}$ d. a foot, which ought to have



Fig. 8.—*Wiltown Oak*, New Forest.

brought him 6d. a foot, had he established a good business connection, without which no productive industry can prove remunerative. An owner of woodland must not offer fifty trees one year, five thousand the next, and none in the third, and expect that purchasers will suit their wants to his convenience. Until British woodlands have been brought into regular rotation, and supply timber of uniform quality and regular annual quantity, timber merchants will resort to those countries where such conditions are fulfilled.

It is worth while to make the attempt to bring our woodlands into a sound productive state. There is not the slightest prospect of falling off in the present enormous consumption of wood and wood products in the United Kingdom, so long as we retain our position as a great manufacturing community. Indeed that position depends very largely upon the command of an ample supply of timber at a reasonable price, and the annual rise in price of foreign timber which has been in progress for a number of years bids fair to reach a prohibitive figure at no distant time. Is it not, therefore, common prudence and patriotism that should prompt our statesmen to look a little beyond the exigencies of the platform, and make some preparation for the commercial needs of the future?



Fig. 9.—*Self-sown Oak*, at Thornbury, Gloucestershire.

2. *British Climate and Soil,*

I turn now to the second consideration mentioned—British climate and soil in relation to timber production

The most common objections raised against forestry enterprise in the United Kingdom are, that climatic conditions are unfavourable, and that profitable forestry is impossible owing to the storms which sweep over these islands.

To take the last-mentioned objection first, it may carry some weight when it can be shown, as it has not been hitherto, that atmospheric disturbance is more violent and frequent in Great Britain than it is in the United States, Canada, Scandinavia, Russia, and Germany. Granted that our



Fig 10 —*Natural Regeneration, Ash and Alder Common*



Fig. 11 —*Self-sown Birch, Buckhold, Bucks.*

proportion of exposed sea-board is excessive, where profitable planting cannot be undertaken, all our inland and mountainous regions were once covered with dense, primitive forest, which was cleared away to give room for pasture and agriculture. It is true that British woodlands, such as they are, suffer more from wind damage than Continental forests do, not because our gales are more furious and frequent than elsewhere, but for two reasons—*first*, because our woods are laid out almost invariably in small blocks and clumps, or in narrow strips, with a view to game, ornament, or shelter. A thousand con-

tiguous acres of wood will offer far greater resistance to storm



Fig 12 — Self-seed, Benmore, Inverness.

than 1000 acres scattered over an estate of 10,000 acres. Two of the most valuable coniferous trees in the world are the Douglas fir (*Pseudotsuga Douglasi*) and *Thuja gigantea*. They agree admirably with our climate, but they have found little favour as yet with British planters, except as ornamental specimens, because they outstrip the other trees in rapidity of growth, and the tops get blown to pieces. But plant them close in large masses, and they protect each other. The only example of their capacity in this respect in the

British Isles may be seen at Benmore, in Argyllshire, where an area of 2000 acres was planted almost exclusively with these trees from twenty-eight to thirty-six years ago (figs. 1 and 2). The west coast of Scotland is notably a stormy region, yet this great woodland is a joy to behold. Of the commercial value of British-grown Douglas fir I shall give an example presently.

Second, because the vice of overthinning established itself three hundred years ago in England and continues to the present day. Trees that have been encouraged to grow spreading heads out of all due proportion to their height must succumb to a storm which might be lifted harmlessly over a 1000-acre block of continuous

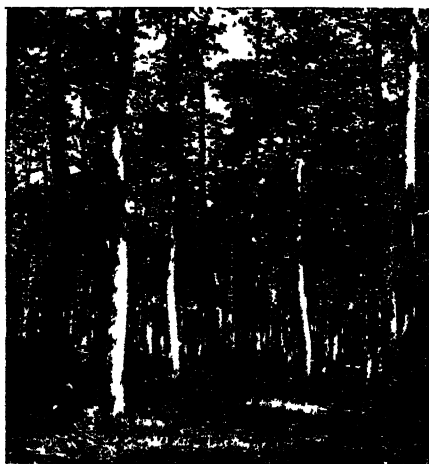


Fig 13 — French Oak Forest, ripe for felling

canopy. This constitutes one of the chief obstacles to woodland reform in this country, as I can sorrowfully testify from my own experience.

The problem must continually present itself to him who wants to start his woodland upon a scientific and soundly commercial system — Must I clear away the old rough-spreading trees? or can I by judicious underplanting with beech, silver fir, and *Thuja gigantea* start gradual regeneration? This is a matter for advice from an expert. The only advice I shall venture to give is this: first find your expert, which is not a difficult matter now, and, having obtained his advice, *follow it*.



Fig 14 — French Oak Forest, three years after first felling

Now, as to British climate and soil, nothing can be more groundless than complaints as to their unsuitability for forest growth. Did space permit, the favourable opinion of many Continental experts might be quoted. They are as unanimous in their approval, and even in their envy, of our circumstances in this respect as in amazement at our neglect of them. Instead of quoting these authorities, I submit a few examples of forest growth in Britain compared with Continental examples.



Fig 15 — Oak Saplings in French Forest

So much for growth: now for the question of profit. I have alluded above to the qualities of the Douglas fir as a forest tree. As usually planted in this country, set out as a lawn specimen or dotted about among other trees,

it throws out strong side branches, utterly ruining its value as timber, presenting, when you look upwards into the mass, the appearance shown in fig. 3.



Fig 16—*Single Fir in Forest.*

The following example of the commercial capacity of Douglas fir in the United Kingdom is far from ideal in respect to conditions of growth and culture, but it is the best that our country can show at an age of more than forty years.

In 1860 eight acres were planted at Taymount with 2416 Douglas fir and 7264 larch. Twenty years later all the larch had been cut

out, and in 1887 the great mistake was committed of cutting 620 Douglas fir (sold for £34). The remaining 1796 trees threw out strong side branches, to the great detriment of the timber. Nevertheless, in 1900, forty years after planting, a Perth timber merchant offered 9d. a foot for the lot standing—the price of larch at that time being 1s. and of Scots pine 6d. a foot. This offer, which was not accepted, amounted to about £1600 for the crop, or £200 an acre, representing a gross rent of £5 an acre during the forty years of growth. Deduct from this the expense of planting and thinning, and compound interest on the capital locked up, include grazing value at 2s. an acre, but add the price of thinnings sold, and the net result is very satisfactory.



Fig 17—*French Oak Forest, first thinning*

The capabilities of Douglas fir have not yet been fairly tested in this country, but there is little doubt that it is destined to work a revolution in British forestry as complete as that wrought by larch in the eighteenth century.

It may be safely assumed from the examples I have given that there is no physical obstacle to the profitable growth of coniferous timber in the greater part of the British Isles. Coming to deciduous trees or hardwood, one is confronted by the difficulty of finding in the United Kingdom examples of well-managed forest of oak, elm, beech, or ash.



Fig 18.—*Final Felling of French Oak Forest.*

3. *Present Condition of British Woodlands.*

John Evelyn must be held responsible for having prescribed excessive thinning in his famous and delightful 'Discourse on Forest Trees' (1664).



Fig. 19.—*Final Felling of French Oak Forest.*

"I conceive," said he, "that it were better to plant trees at such distances as they may least incommode one another. For timber trees, I would have none nearer than forty feet where they stand closest, especially of the spreading kind."

Now, such treatment is plainly incompatible with the production of clean, straight stems. But, in fact, Englishmen did not want clean, straight timber in Evelyn's day, nor for long after. What was most in request was crooked oak for the navy, and the tradition has been perpetuated to our own

times, when ships are built of iron, by such teachers as Brown and Michie. Thus for generations we have been aiming at an ideal which we must abandon if we are to develop our forestry



FIG. 20.—*Part of the Ashridge.*

resources. We must cease to frame our notion of an oak upon such a magnificent deformity as the Major Oak (fig. 4) in Sherwood Forest; or the Wych Elm at Sharpsham, near Totnes (fig. 5), measuring 80 feet high, girthing 18 feet at 6 feet from ground, covering $\frac{1}{4}$ acre of ground, and having one branch 104 feet long; or the great Chestnut at Skene House (fig. 6); or the Capon Oak at Jedburgh (fig. 7).

That we can grow fine straight oak if we choose may be seen from an example in the New Forest

(fig. 8),—a domain which, unhappily, Parliament will not permit the Office of Woods and Forests to treat on right principles, but has decreed that it is to be kept as a hybrid between a vast tea-garden and a village common. British soil is kindly enough for *natural reproduction* of the finest timber: witness this

example (fig. 9) of self-sown oak at Thornbury, in Gloucestershire, about forty years old. Again, in fig. 10 is shown natural regeneration going forward on Ashampstead Common,—young beech, oak, and ash in thin high wood; and in fig. 11, a crop of self-sown ash, eighty years old, at Buckhold, Berks, which sprang up after the ground had been cleared of beech and silver fir.



FIG. 21.—*Part scenery at Ashridge.*

Ash is probably at the present time the most profitable timber that can be grown in the United Kingdom, where the soil is of a good nature. British ash is superior in quality to any other; the supply has run very short; the timber is market-

able at almost all ages, and reaches commercial maturity at eighty or ninety years; whereas oak does not reach its full value under 120 to 200 years.

Fig. 12 is an example of self-sown beech at Inveraray, in Argyllshire,—a rough specimen, but sufficing to show that the soil is capable of producing a liberal crop when it gets a chance.

The fact is, that to obtain good examples of the management of deciduous forest one must go to the Continent. In fig. 13 is shown a French forest of sessile-flowered oak ripe for felling. The foreground has been



Fig. 22.—*Park Scenery at Ashridge.*

cleared of timber already, and may be seen to be covered with seedlings. In fig. 14 the same seedlings appear in their third year; in fig. 15 they have grown to ten or twelve years old; and in fig. 16 they appear as poles, twenty to twenty-five years' growth. Next follows the first felling (fig. 17), leaving



Fig. 23.—*Park Scenery at Ashridge.*

standards to propagate themselves by seed; and in figs. 18 and 19 is shown the final fall. (Note, in fig. 19, how the photographer has caught the head of the tree in the act of falling.) That is a fair example of extreme scientific treatment in close forest. I do not advocate its uniform application to all British hardwoods. It

is well known, for instance, that British beech is superior to Continental because the trees are grown less close together, and the timber develops better quality and strength than that grown in close forest.

4. *What the State may do.*

Coming now to the fourth heading, what the State should do is a matter of great national concern. Let us first consider what has been and is being done by a Continental State.

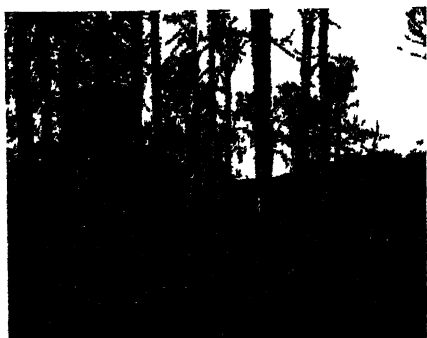


Fig. 24.—*Partial clearing at Ashridge*

The State forests of Germany extend to 9,848,000 acres. The nett annual revenue derived from these forests during the five years 1877-81 was £4,280,400—an average profit of 8s. 6d. an acre. During the two succeeding quinquennial periods a steady increase in the profit per acre took place, until, during the five years 1892-96, the

latest that I am able to quote, the net annual forest revenue had risen to £5,416,600—an average profit of 11s. an acre. Pray mark that figure, for I shall have occasion to return to it presently. What have we to show in Britain against this handsome revenue of 5½ millions sterling from 10 million acres of what, if not under forest, would be waste land? The balance-sheet of the Office of Woods and Forests for 1903-4 shows under the heading of "Royal Forests and Woodlands" a revenue of £32,481 against an expenditure of £58,402—a net loss of £25,911. No blame can be attached to the Department, which administers these woodlands as they are instructed to do—chiefly as pleasure ground and landscape garden. They work under rigid restrictions; it is those responsible for the restrictions who must be held to account for neglecting all provision for the future, and for allowing the national resources to remain undeveloped. The



Fig. 25.—*Felling in a French Forest of Silver Fir.*

Committee on Forestry in its report stated—"That it requires only the exercise of timely forethought and a moderate expenditure to anticipate the time when scarcity of foreign timber shall have greatly enhanced the price, and to replace with British-grown timber much of those enormous imports upon which we depend at present."

But this was a Departmental Committee, with a representative of the Treasury upon it, whose cold influence may be recognised in the sentence which follows—"We do not feel justified in urging the Government to embark forthwith upon any general scheme of State Forests under present circumstances." That is a strange deliverance by those who have so fully set forth the urgency of "present circumstances" in the rest of their report. Are we to wait till the crisis is upon us?

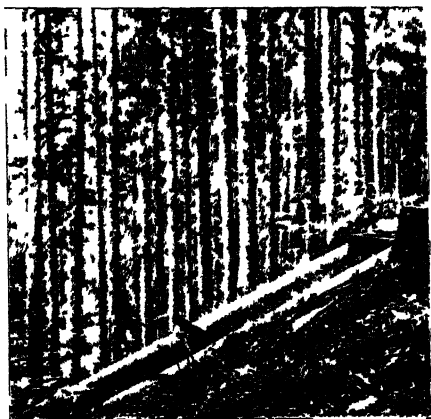


Fig. 26.—Felling in a French Forest of *Silvete* Eu.



Fig. 27.—Oaks in Cadzou Park.

I ventured in 1905 to lay before the Board of Agriculture and the Treasury a modest scheme for the profitable investment annually of £10,000 in State forestry. I am informed that the scheme has been favourably considered, but nothing has been done as yet.

The outline of the scheme is as follows: Owing to the great fall in value of sheep farms in the north, amounting to 50 per

cent of the annual rent on many estates, there are hundreds of thousands of acres, suitable for forest growth, now rented at from 6d. to 2s. an acre. From some of this land a revenue is

derived from its sporting capabilities, but much of it carries few or no grouse. Such land is constantly being offered for sale,

and taking the price at twenty-five years' purchase, might be had for from £700 to £2500 for 1000 acres.

Now suppose that our Government made up its mind to invest £10,000 a-year in the purchase and planting of suitable hill pasture now rented at 2s. an acre, which implies land of good quality. The purchase of 1000 acres would cost £2500; planting and replanting, say £6 an acre, £6000; preliminary



Fig. 28.—Notice of Recreation in the New Forest. Self-sown trees are seen within the fence, the remainder being planted by the Government.

outlay on existing buildings and on drainage, £1000 = £9500; leaving £500 for expenses of purchase, &c. After that, the annual expenses may be reckoned as follows:—

Head forester	. £120	0	0
Foreman	. 52	10	0
Eight woodmen			
at 18s. per week	374	8	0
Tool bill, &c.	. 103	2	0
	£650	0	0

This is assuming the employment of one man upon every hundred acres, which would be necessary until the forest is fairly started, after which, and until the final felling, fewer might be required.

Of course, the great question is, Would this investment pay? Can the State look for interest on the capital invested, accumulating at compound interest during the non-productive period of growth, and find that capital in hand at the end of the first crop period, say in a hundred years? We have the revenue results of German forests to encourage the belief that the investment

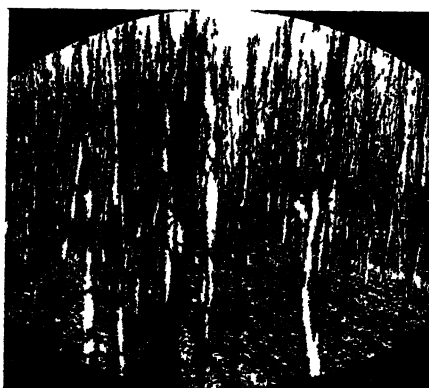


Fig. 29.—Self-sown Trees on protected ground at Ashdown.

would be a safe one. No reason can be shown why British forests should not do the same under similar good management.

It is most difficult to obtain any trustworthy returns of British forestry, national or private, for the simple reason that British forestry scarcely exists. I can produce only one such example, and it shows that sound management will ensure profitable returns from British woodlands, even in the present haphazard condition of the home timber trade. This example is the balance-sheet of the Novar woods in Ross-shire, as furnished from the estate office, showing the profit and loss account upon 3670 acres of woodland for the five years 1895-99. After debiting the



Fig 30 —*Scots Pine* at Colesborne.



Fig 31 —*Spruce and Larch*, 110 120 feet high, at Colesborne

account with all working expenses, loss of grazing rent, fire insurance, &c, there remains an average annual nett revenue of £2024, or 11s. 1d. per acre —almost exactly the same as that earned from the German State forests mentioned above.

The estate of Novar is distinguished from other private properties in this country by the fact that successive proprietors continued planting on a regular system from the year 1800 to 1850. Had this been continued, we should have had an example, unique in the United Kingdom, of an extensive woodland arranged for progressive annual maturity. Unluckily, the system was suspended between the years 1850

and 1881, when no planting was done; but it was resumed



Fig 32—*Spruce and Larch at Colisloine.*

in the latter year by the present proprietor, Mr Munro-Ferguson, M.P. In spite of this break, which has interfered with the regular rotation, the returns quoted show the annual nett revenue to be satisfactory, and the working plan provides for that revenue being maintained, except so far as the thirty-one years of neglect must affect the returns during a corresponding period in the future.

Taking this, then, as the basis of expectation of the economic results of State forestry, we may expect that land, worth at present

from 6d. to 2s. an acre, may be made to yield a nett return of 11s. an acre. If the State were to decide on the investment of £10,000 a-year in the purchase and planting of land, at the end of fifty years it would have made a progressive investment of half a million sterling—the cost of four days' campaign against the Boers! The property, which it had acquired on the rent basis of 2s an acre, would be yielding 11s. an acre—a rise in value of 550 per cent. And this assuming, against all appearances, that the price of timber will continue stationary for half a century.

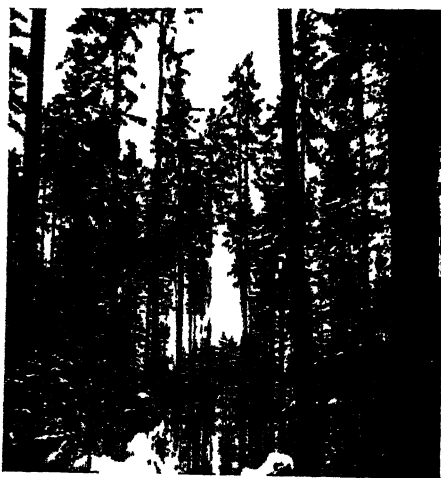


Fig 33—*Spruce and Larch in French Forest.*

But that is not all the advantage to be gained. The minds of politicians and sociologists are grievously exercised just now, and justly so,

about the physical deterioration of our population, owing to the concentration of the working classes in our large towns. No greater boon can be devised than healthy and remunerative work in the open air of the country. Suppose these 50,000 acres to have been planted by the State. Instead of a rural population of one shepherd to 1000 acres of pasture—fifty shepherds on the whole extent—you will have established one woodman to every 100 acres, or 500 woodmen on the whole ground. But that is not all. By the German census of 1875 it appears that besides £4,150,000 spent in wages to those employed in managing the forests, and in planting, felling, handling, and putting the produce on the market, direct employment was afforded to 583,000 persons (9 per cent of the

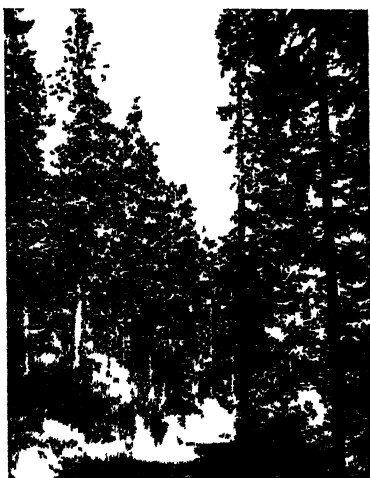


Fig. 34.—*Silver Fir in French Forest*

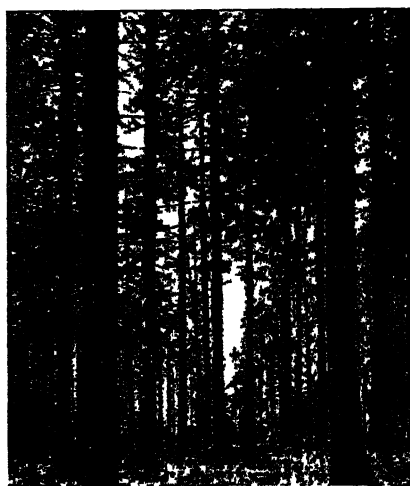


Fig. 35.—*Silver Fir and Larch in French Forest.*

total industrial classes of the empire) in manufacturing the timber so produced and sold. "These 583,000 breadwinners," observes Dr Nisbet, "represented about 3,000,000 souls, or nearly one-sixteenth of the total population."¹ Since that time there has been an immense expansion of this industry, owing to the establishment of pulping mills and cellulose factories, of which, as I have already said, not one exists in the United Kingdom.

In no part of King Edward's dominion would the creation of forest industries be of so much

direct benefit as in Ireland, where there is an almost total

¹ The Forester, vol. i. p. 84.



Fig 36.—*Spruce and Larch at Dunlidd.*

absence of that mineral wealth which abounds in Great Britain. And, by a happy dispensation, in no part of the United Kingdom does forest growth flourish more vigorously when it gets a chance. Five hundred years ago, when Richard II. wanted fine oak for the new roof, still existing, of Westminster Hall, it was from the forests of Kilkenny that he drew his supply. Moreover, one great obstacle with which forest reformers have to contend

in England and Scotland hardly exists in Ireland—namely, game-preservation.

5. *What Private Owners may do.*

It is only one very ill-informed as to the average financial condition of landowners who would recommend a large investment of capital in planting in the hope of founding a new source of revenue. Not one landowner in a hundred could afford the necessary lock-up of capital during the non-productive years of a young forest. Moreover, the price of young forest trees in the United Kingdom is at present practically prohibitive. Take larch, for instance. One pound of larch seed costs about 3s., and contains about 70,000 grains, which ought to produce 50,000 seedlings; but larch two years transplanted is quoted by our leading nurserymen at an average of 50s. per



Fig 37.—*The "Earls Tree" at Castle Grant*

1000. It would take 4840 of these to plant an acre 3 feet apart—nearly £12 an acre, besides the cost of planting: an outlay equal to four or five times the purchase price of hill pasture land valued at 2s. an acre. If forestry is ever to be a remunerative industry, this obstacle must be got over. That it can be overcome I do not doubt. Continental nurserymen manage to supply young trees at less than one-half the cost charged in this country; and the Governments of France, Germany, Belgium, and Denmark provide seed at nominal prices for landowners who undertake to manage their woods on approved system. The obvious expedient is co-operative forestry by a combination of landowners, who should agree to place their woodlands under control of one capable well-paid man, raise their own young



Fig. 38.—*Scots Pines, Bullochburn.*



Fig. 39.—*The oldest Larches in Scotland, Dunkeld.*

stock from seed, and form a proper business connection for the disposal of their produce. If a limited liability company were formed among them, the death duties would be escaped.

But the difficulties in the way of this proceeding are as obvious as its expediency. The general ignorance of proper forest management which prevails among landowners and land-

agents is a bar to common understanding. One owner would wish to have a stock of rabbits, which is absolutely incompatible with profitable forestry; another would have notions about landscape

effect, and so on. It is to be feared that we are a long way from co-operation in this direction.

The fact remains that of the 3,000,000 acres of British woodland, nine-tenths are in private hands, and, so far from returning any profit, are the source of annual expense which defies calculation.



Fig. 40 — *In the Tyrol.*

Can nothing be done to balance the account? It is an important question for landowners to answer, because, what with the failure of agriculture, the constant increase of rates, and the paralysing effect of death duties, the time is at hand when woodland must either cease to be treated as an ornamental luxury or disappear.

If these 3,000,000 acres were rendered as productive as German forest they should yield a gross annual revenue of £2,000,000, or

a nett annual profit of £1,000,000 = 6s. 8d. an acre. The nett profit on German *State* forests I have shown already to be equal to 11s. an acre per annum; the nett profit on State and private forests taken together is equal to 6s. 8d. an acre per annum.

Now the commonest and strongest objection to adopting a scientific and economic system of forestry is that it would destroy some of the fairest landscapes in the United Kingdom, especially that park scenery around country houses which is a peculiar feature of our land. It is a mistake to attribute any such purpose to forestry reformers. We hold that fine park scenery can never be produced by dotting trees about in the open, nor by following the prescription given in Brown's 'Forester' (so long the standard guide of British squires)—that "for park and lawn trees a distance from stem to stem about equal to the height of the trees should be maintained *at all stages of growth.*" Management of this kind produces sprawling trees as broad as they are high, with a sharp browsing line, giving them the contours of a toadstool, and exposing them to damage or destruction by gales. The ideal park tree is one which, having undergone discipline of close canopy until attaining nearly its full height, is then relieved and allowed to furnish out into a grand column of foliage.

All this means that fine park scenery is not the product of a single lifetime, reminding one of the old story of an American visitor to Oxford. Struck by the beauty of the turf in the college quads, he asked the gardener how it was produced. "Well, sir," was the answer, "we rolls un and we mows un for a thousand years, and it just comes, like."

. In support of my contention that fine park timber can only be had as the outcome of forest treatment, figs. 20 to 24 show views taken in Lord Brownlow's noble park at Ashridge.

The formation of park scenery out of high wood is not a disfiguring process. No industry presents such beautiful pictures as forestry, in which all the operations are picturesque. In figs. 25 and 26 is shown the work of clearing in progress in a French forest of silver fir.

Yet we have not only to form new park scenery but to preserve the old. If no measures are adopted to perpetuate it, it will pass in time into the lamentable condition of the old oak forest at Cadzow (fig. 27). This must be done either by underplanting or by protecting the ground from grazing and ground game for the encouragement of seedlings. Natural regeneration of this kind is shown among the young oaks springing inside the fence of Denny enclosure in the New Forest (fig. 28). A better example of the contrast between the growth of seedlings on protected and unprotected ground cannot be given than by returning to Ashridge. Figs. 20 to 24 show ground in the park browsed by deer and nibbled by rabbits. In fig. 29 is shown a piece of ground which is protected from both, and has thrown up a dense growth of seedling beech, ash, oak, and sycamore.

A few examples may be added to show that these resources are not inferior to those enjoyed by Continental foresters. Figs. 30, 31, and 32 are views of Scots pine and spruce in Mr Elwes's woods at Colesborne, Gloucestershire. They may be compared with figs. 33, 34, and 35, which show spruce, larch, and silver fir of similar age in a French forest. Fig. 36 shows spruce and larch in the Duke of Atholl's wood near Dunkeld. Figs. 37 and 38 are Scots pines at Castle Grant and in Ballochbuie Forest; fig. 39 shows the parent larches at Dunkeld; and, returning to the Continent, fig. 40 is a vignette from the Tyrol.

Within the limits of a single paper it is impossible to deal with all the objections that will be raised to the establishment of systematic forestry in the United Kingdom. I have endeavoured to anticipate a few of them, in the hope that what has been written may contribute in some small measure to that awakening of intelligence whereby our people are beginning to realise that of all the spendthrifts of God's good gifts, there is none worse than the British Government and British landowner in respect of forest resources.

LAND AS AN INVESTMENT.

By R. E. TURNBULL.

THE area of land in Great Britain can never be materially increased. Since 1891 the area of enclosed land under field crops and grass has diminished every year as follows:—

TABLE I.

Year.	No. of acres.	Year.	No. of acres.
1891-92 . . .	232,964	1898-99 . . .	19,924
1892-93 . . .	41,841	1899-1900 . . .	19,721
1893-94 . . .	13,854	1900-1 . . .	19,941
1894-95 . . .	52,342	1901-2 . . .	29,486
1895-96 . . .	15,154	1902-3 . . .	44,380
1896-97 . . .	42,283	1903-4 . . .	25,969
1897-98 . . .	43,045	1904-5 . . .	30,778
		1905-6 . . .	20,077
	441,483		210,276

The total area under crops and grass in 1891 was 32,918,514 acres, and in 1905, 32,286,832 acres, or 631,682 acres less than in 1891 = 1.92 per cent:—

TABLE II.

	1891 Crops and grass. No. of acres.	No. of acres less in 1905	Per cent	1905 Crops and grass. No. of acres.
England . . .	25,113,343	502,157	= 2.00	24,611,186
Scotland . . .	4,917,380	36,395	= 0.74	4,880,985
Wales . . .	2,887,791	93,130	= 3.22	2,794,661
Great Britain . .	32,918,514	631,682	= 1.92	32,286,832

The average annual reduction from 1901 to 1905 was 45,120 acres, and in the last thirteen years 30,670 acres.

TABLE III.

	Decrease in arable land in 1905 as compared with 1891 No. of acres.	Increase in permanent grass in 1905 as compared with 1891 No. of acres
England . . .	1,177,632 = 9·8%	675,475 = 5·16%
Scotland . . .	150,820 = 4·2%	114,425 = 8·56%
Wales . . .	69,874 = 8·0%	789,900
		Wales decrease . . . 23,256 = 1·15%
	<u>1,398,326 = 8·48%</u>	Net increase in per- manent grass } 766,644 = 4·66%

It will be seen from these figures that the proportion of land withdrawn from cultivation in England and Wales was much larger than in Scotland, and also that the decrease in arable land was much larger both in extent and in proportion in England than in Scotland. On the other hand, since 1891 the increase in permanent grass land has been larger in proportion in Scotland than in England:—

TABLE IV.

MOUNTAIN AND HEATH LAND USED FOR GRAZING. NO. OF ACRES.

	1891	1905	1905—Increase	1905—Decrease
England . . .	1,861,829	2,365,476	503,647	...
Scotland . . .	9,272,169	9,104,388	...	167,781
Wales . . .	953,234	1,293,235	340,001	...
Great Britain . .	12,087,232	12,763,099	843,648	Net increase. 675,867

TABLE V.

WOODS AND PLANTATIONS NO. OF ACRES.

	1891.	1905.	1905—Increase.	1905—Decrease
England . . .	1,613,849	1,715,473	101,624	...
Scotland . . .	905,759	868,409	...	37,350
Wales . . .	174,967	184,361	9,394	..
Great Britain . .	2,694,575	2,768,243	111,018	Net increase 73,668

TABLE VI.

PERMANENT GRASS. ARABLE LAND AND MOUNTAIN AND HEATH
LAND USED FOR GRAZING. NO. OF ACRES.

	1891.	1905.	1905—Increase.	1905—Decrease.
England . .	26,975,172	26,976,662	1,490	...
Scotland . .	14,159,549	13,985,373	...	204,176
Wales . .	3,841,025	4,087,896	246,871	...
Great Britain .	45,005,746	45,049,931	248,361	Net increase. 44,185

TABLE VII.

TOTAL AREA USED FOR FARMING PURPOSES AND WOODS AND
PLANTATIONS. NO. OF ACRES.

	1891.	1905.	1905—Increase.	1905—Decrease.
England . .	28,589,021	28,692,135	103,114	...
Scotland . .	15,095,308	14,853,782	...	241,526
Wales . .	4,015,992	4,272,257	256,265	...
Great Britain .	47,700,321	47,818,174	359,379	Net increase. 117,853

In connection with the subject of "land as an investment," the annual increase in population is an important consideration. Between the census of 1891 and 1901 there was an increase in the population of Great Britain of 3,969,860, = 12 per cent. In England and Wales the increase was 3,523,550, = 12·15 per cent; in Scotland the increase was 446,310, = 11·08 per cent. It is estimated by the Board of Agriculture that the population of Great Britain was larger in 1904 than in 1903 by 434,000, the increase in England and Wales being 385,000, and in Scotland 49,000 :—

TABLE VIII.

POPULATION OF GREAT BRITAIN IN 1891 AND IN 1905.

	1891.	1905.	1905—Increase.	Average annual increase.
England . .	27,481,000	32,370,000	4,889,000	...
Scotland . .	4,025,500	4,677,000	651,500	...
Wales . .	1,521,500	1,778,000	256,500	...
Great Britain .	33,028,000	38,825,000	5,797,000	414,000

In March 1899 an exceedingly interesting paper on "Leeds from a Surveyor's Point of View" was read before the Leeds and Yorkshire Architectural Society by Mr John Hepper, F.S.I., who is well known in his profession as a man of great experience and sound judgment. At the Yorkshire meeting of the Surveyors' Institution, held in Leeds in April 1900, Mr Hepper also read a paper on the same subject. The following facts relating to Leeds, which is a city and county borough, are gathered from Mr Hepper's valuable papers.

The area of Leeds is 21,572 acres. It is the chief manufacturing town in the north of England, and has a great variety of industries, chief amongst which are woollen goods and machinery, bricks and sanitary appliances.

In the eleventh century Leeds was a village. Early in the seventeenth century the population numbered only about 5000. The growth of Leeds in the nineteenth century was remarkable. During that period nearly 19,000 acres that in the eighteenth century were available for food production were to a large extent withdrawn from agriculture for the extension of this progressive city. In 1801 the population was 53,160; in 1821, 83,800; in 1841, 152,050; in 1861, 207,160; in 1881, 309,120; in 1900, 421,860; in 1901, last census, 428,950. From the first census in 1801 to the census in 1901 the increase during the century that intervened was 375,800, or about 707 per cent. Between 1891 and 1901 the increase was 61,448, or over 16·7 per cent, the average annual increase being $1\frac{3}{4}$ per cent. On this basis the population by 1905 reached 450,880, or 20·9 per acre. Within the area of Leeds there is one large park—Roundhay—300 acres of which are reserved for public use, and there are eighteen other parks and recreation-grounds that vary in extent from under 10 acres to 78 acres. The total area of the parks and recreation-grounds is 645 acres. The eighteen smaller parks and recreation-grounds and surplus land connected therewith are valued by the corporation at £348,000, or about £1000 per acre—rather over 4s. per square yard. The cattle-market occupies about 16 acres, and the general market about 5 acres; burial-grounds, $34\frac{1}{2}$ acres, valued at nearly £1000 per acre; allotments, about $15\frac{1}{2}$ acres, valued at about £500 per acre.

To provide accommodation for the ever-growing population, and to replace houses pulled down on insanitary areas for public improvements, and for commercial expansion, not less than 1750 new houses have to be built annually. In the twelve months that ended on the 25th of March 1898 the number of houses built was 2399, and of other buildings 1289. In 1866 there were 184 miles of paved and macadamised high-ways. In 1898 there were 340 miles.

A very large area is occupied by manufacturing premises,

railway-stations, sheds and lines, warehouses and shops. For residential, recreation, and business purposes it would appear that the total area required in the case of a manufacturing town equals about $\frac{1}{25}$ of an acre per head of its population, or $\frac{1}{5}$ of an acre per family of five persons. From 1891 to 1905 the population of Great Britain is estimated to have increased (in round figures) by 5,800,000. This equals 1,160,000 families. It is certain that the greater part of this increase took place in urban districts. In 1901 urban districts in England and Wales occupied 3,848,987 acres, an increase of 576,132 acres, or 17.6 per cent during the ten years 1891-1901. The area added to urban districts between 1891 and 1901 was equal in extent to 72 estates of 8000 acres each. The whole of the land withdrawn from rural districts was not immediately required for building or recreation purposes, but undoubtedly the proportion that ceased to contribute to the food-supply was very large, and had a high rental value for agricultural purposes.

By referring to Tables I. and II. it will be seen that the average annual reduction from the total area of land under crops and grass in Great Britain in 1891 was 45,120 acres. Excluding the twelve months from June 1891 to June 1892, the average reduction was 30,670 acres. The reduction in 1891-92 having been nearly 233,000 acres, it is manifest that a large proportion of this area was not required for the extension of towns. As seven-eighths of the increase in population in Great Britain since 1891 took place in England, it may be well to examine the figures for England separately from 1892 to 1905, in order to ascertain, if possible, what area of land was withdrawn from agriculture during that period for the extension of towns. Land added to urban districts is not in all cases agricultural in character.

TABLE IX.

ENGLAND.

Total area under crops and grass. No. of acres.			Population.		
1892	.	24,924,204	1892	.	27,840,000
1905	.	24,611,186	1905	.	32,370,000
Decrease	.	<u>313,018</u>	Increase	.	<u>4,530,000</u>

Annual average decrease, 24,078. Annual average increase, 348,460.

The population of England from 1892 to 1905 increased by 906,000 families (five per family): the area required for their accommodation, including recreation-grounds and the addition

to streets, shops, and other business premises at one-quarter of an acre per family, was 226,500 acres, the annual average being about 17,420 acres.

During this period (1892-1905) the increase in woods and plantations in England was, on the average, 7258 acres. The increase from 1892 to 1905 was, therefore, about 94,350 acres. The decrease in the total area under crops and grass being 313,018 acres, it is evident that if the extension of the area covered by woods and plantations took place entirely on land withdrawn from the cultivated area, the land taken up for the extension of towns could not have been more than 218,670 acres—equal to $\frac{24}{100}$ of an acre per family, instead of $\frac{25}{100}$ of an acre as calculated. But it is well known that unenclosed land has to some extent been planted with trees in recent years. Here we are met by a difficulty. The quantity of unenclosed land used for grazing was larger in England by about 603,650 acres in 1905 than in 1891. The total area of enclosed and unenclosed land occupied by farmers, and of land covered by woods and plantations, was nearly 300,000 acres more in 1905 than in 1892, although, apparently, 226,500 acres or thereabouts of grass and arable land had between June 1892 and June 1905 been withdrawn for the extension of towns.

In round figures, the total areas were—

1892	28,392,000
1905	28,692,000

In 1891 and in 1905 the total area of enclosed and unenclosed land occupied by farmers was almost exactly the same.

In Major Craigie's Report to the President of the Board of Agriculture for 1894 he said that the area stated of mountain and heath land used for grazing "is only approximate," and, further, that "the annual estimates of these mountain and heath grazings vary somewhat with the character of the seasons." It would add greatly to the value and interest of the agricultural returns if a statement were annually made of the purposes to which land withdrawn from agriculture is applied.

In the near future there can be no doubt that an effort will be made to sweep away the slums that continue to disgrace many of the cities and towns of Great Britain. What has already been done in Leeds and Birmingham is encouraging, and in deference to public opinion the evil of densely crowded, sunless, and insanitary streets and courts will have to be remedied by the removal of existing dwellings that are unfit for habitation, and by the provision of dwellings in which a real home can be enjoyed.

The population of England is increasing at the rate of 1000 a-day, or by 365,000 in twelve months; the population of Scot-

land is increasing by 137 per day, or by 50,000 in twelve months; Wales by nearly 55 per day, or by 20,000 in twelve months. Should the population continue to increase in Great Britain by 435,000, or by equal to 87,000 families, the quantity of land that will be annually withdrawn from agricultural purposes to provide the accommodation required for houses, shops, and other buildings, together with recreation-grounds, roadways, &c., will be about 21,750 acres on the basis of $\frac{1}{4}$ of an acre per family. A considerable additional area is also likely to be required, as already indicated, for improved dwellings.

It is manifest, too, that in many districts the country roads are not sufficiently wide for the increased traffic caused by the rapidly increasing use of motor-cars. In order to widen the roads, or to provide footpaths in the fields adjoining the roads, land will have to be withdrawn from the agricultural area for the purpose.

There would appear to be good grounds for believing that during the next ten years from 200,000 to 250,000 acres now used entirely for agricultural purposes will be required for the extension of towns and for improved roads. Some land will also be required for new branch railways and for widening existing lines. Landowners who possess property in the immediate neighbourhood of growing towns will certainly be able to dispose of a considerable area on advantageous terms to buyers of building land, and as the land so disposed of becomes occupied by houses, shops, factories, warehouses, &c., adjoining land must necessarily increase in value. From 1871 to 1905 the population of Great Britain increased in round figures by 12,750,000, or on the average by 375,000 annually. The additional area that was probably required to provide residential and business accommodation for 12,750,000 people, or equal to 2,550,000 families, works out to 637,500 acres at $\frac{1}{4}$ of an acre per family, or $\frac{1}{20}$ of an acre per head of the population. At £400 per acre the value of the land taken up for this purpose would amount to £255,000,000. It is unlikely that the whole of this vast sum passed into the hands of the 1871 owners—a considerable proportion was probably purchased by far-seeing buyers of building land; but making due allowance for this, there can be no doubt that landowners disposed of a very large area of land between 1871 and 1905 at prices that show a very material advance on the value of 1871. The value, too, of an equal area of land adjoining the land disposed of must also have been considerably increased. In other words, the extension of towns since 1871 has largely increased the value of fully 1,275,000 acres of land.

During the period named a considerable area of land that in 1871 was devoted entirely to agricultural purposes has been

absorbed in connection with the extension of the railways. More than the agricultural value has been paid for this property, and the new railways have certainly in many cases added considerably to the value of land suitable for market-garden crops, where such land is situated near railway stations. The area of land taken up since 1871 for the manufacture of bricks and for the development of the mineral resources of the country has also been considerable, and has usually realised prices well above the agricultural value in 1871.

In connection with the great fall in the value of agricultural land that has taken place since 1871, it is well not to lose sight of the fact that many estates have benefited substantially by the extension of railways and towns, and by the industries associated with this work. £250,000,000 may perhaps be regarded as a reasonable estimate of the value to landowners of the extensions and enterprises alluded to.

The Royal Statistical Society.

On the 21st of February 1905 Mr R. H. Inglis Palgrave, F.R.S., whose father, Sir Francis Palgrave, was one of the founders, read a very interesting and able paper before the Society, entitled "Estimates of Agricultural Losses in the United Kingdom during the last Thirty Years." The keen interest taken in the subject was proved not only by the exceptionally large attendance, but also by the long and animated debate that followed the reading of the paper, in which Major P. G. Craigie, C.B.; The Right Hon. G. J. Shaw-Lefevre (Chairman of the Royal Commission on Agriculture, 1894); Mr F. A. Canning, M.P.; Mr J. W. Spear, M.P.; Mr S. Rosenbaum; Mr R. H. Rew (Board of Agriculture), and other members of the Society, took part.

The principal points included in Mr Palgrave's estimate were—

- (1) The decrease in the value of agricultural produce since the years 1872-77—which he took as the base of his computation.
- (2) The diminution in the value of farming capital.
- (3) The drop in the value of land in the United Kingdom since 1872-77.

GROSS FARM REVENUE.

(Exclusive of the produce of unenclosed land.)

Annual average for the six years 1872-77 .	£255,000,000
Annual average for the six years 1898-1903 .	174,516,000

Reduction in 1898-1903 as compared with 1872-77,
£80,484,000 = 31·56 per cent.

Mr Palgrave estimated that the gross farm revenue during the thirty-two years amounted to £6,512,500,000. Had the average of 1872-77 been kept up, the gross revenue during the thirty-two years would have been £8,160,000,000, or £1,647,500,000 more than it was according to the estimate. Mr Palgrave estimated the gross revenue for 1904 to have been about £195,000,000—making the total for the thirty-three years £6,707,500,000, or £1,707,500,000 less than it would have been on the 1872-77 basis.

Gross revenue in thirty-three years, on the 1872-77 base	£8,415,000,000
Gross revenue, 1872-1904, as estimated	6,707,500,000
	<u>£1,707,500,000</u>
Gross revenue in the twenty-seven years 1878-1904, on the 1872-77 base	£6,885,000,000
Gross revenue by Mr Inglis Palgrave's estimate, 1878-1904 'annual average, £191,759,000)	5,177,500,000
	<u>£1,707,500,000</u>

Average reduction in the twenty-seven years 1878-1904, as compared with the 1872-77 average, £63,240,740 = 24·8 per cent.

Alluding to this great reduction in gross revenue, Mr Inglis Palgrave remarked: "In round figures, a loss of £1,700,000,000 in the twenty-seven years (1878-1904). I do not say this is all a loss to the country by any means, but it appears to me to indicate a loss to the producer which is very considerable to him." From further remarks Mr Palgrave made, it is evident that he had arrived at the conclusion that in the aggregate farmers' profits were diminished during the twenty-seven years by about £500,000,000, or by, on the average, £18,518,500 a-year.

In vol. x., fifth series, 1898, of 'The Transactions of the Highland and Agricultural Society of Scotland,' pp. 378, 379, an estimate was given of the "annual average cash expenses and the annual average value of all manual labour, whether paid in cash or in kind," for two periods—viz., from June 1872 to June 1877 and from June 1892 to June 1897. It was explained that the cost of keep for working horses, and the cost of seed corn, seed potatoes, and of all seeds produced on and used on agricultural holdings in the United Kingdom, was not included in the estimate, as the value of the same was not included in the estimate of gross revenue.

WORKING EXPENSES, SUBJECT TO THE EXPLANATION GIVEN ABOVE.

Period A—Five years' average, June 1872-77	£210,400,000
Period B—Five years' average, June 1892-97	170,000,000
Reduction in Period B as compared with Period A	<u>£40,400,000</u>

On the basis of the expenses named above for period A, Mr Palgrave's figures show the following result:—

Average gross revenue, 1872-77	£255,000,000
Average expenses (as explained)	210,400,000
Average annual profit	<u>£44,600,000</u>
Average gross revenue, 1878-1904. £191,759,000	
Average expenses (as explained) . 165,677,000	
Average annual profit	<u>£26,082,000</u>
Average reduction in expenses 1878-1904, as compared with 1872-77	£44,723,000
Average reduction in profit 1878-1904, as compared with 1872-77	<u>18,518,000</u>
Average reduction in gross revenue	<u>£63,241,000</u>

If these figures may be regarded as substantially correct—a conclusion that a careful examination justifies—it would appear that during the twenty-seven years 1878-1904 the net income of the farmers of the United Kingdom was reduced by £500,000,000 (annual average reduction, £18,518,000), or by more than the average amount of capital invested in farming during the five years from June 1872 to June 1877, which was £450,000,000.

The estimated reduction in expenses equalled $21\frac{1}{2}$ per cent, and in net revenue $41\frac{3}{4}$ per cent. The net revenue during the five years that ended in June 1877 averaged very nearly 10 per cent on the capital employed—an average that has never since been enjoyed over a wide area in any part of the kingdom.

Mr Palgrave said, with regard to the fall in the value of land: "The final Report of the Commission on Agriculture (1898) records 'a decline of nearly £1,000,000,000 in the capital value of land in the United Kingdom' as having occurred between 1875 and 1894. . . . The losses of agriculture in the United Kingdom between the years 1872-77 and 1904 have collectively been about £1,600,000,000, viz.:—

Diminution in owners' capital	£1,000,000,000
Diminution in farmers' capital	100,000,000
Diminution in farmers' profits	<u>500,000,000</u>
	<u>£1,600,000,000</u>

The estimated diminution in owners' capital of £1,000,000,000, even if it could have been proved to have taken place, included a loss of some importance that was not connected with the agricultural land occupied by farmers. Sir Robert Giffen's and

Lord Milner's valuations were based on the "gross income from 'lands' returned under Schedule A. of the income-tax returns, which refer to lands whether cultivated or uncultivated, including ornamental grounds, gardens attached to houses when exceeding one acre in extent, tithe rent charge commuted under the Tithe Commutation Acts, farmhouses, and farm buildings." Woods and plantations are included in "lands" under this Schedule, also deer forests and unenclosed land, whether grazed by stock or not.

Mr Shaw-Lefevre, in the course of the debate, characterised the £1,000,000,000 estimate of the Royal Commission as "grotesque and absurd, and founded upon a wrong basis. The majority of the Royal Commission made the calculation by taking the year 1875 and comparing it with 1893. They took, in the first place, the difference between the income-tax assessment of the value of the land, which they found was a difference of 20 per cent, and then they multiplied the first valuation for the year 1875 by 30 years' purchase, and for the year 1893 by 18 years' purchase. . . . Was it fair to take the value of land in 1875 at 30 years' purchase and the value of land in 1893 at 18 years' purchase?" Mr Shaw-Lefevre expressed the opinion that at the present time (1905) the price of land is certainly more than 25 years' rental.

Mr Palgrave mentioned that for the years 1877-81 the annual value of the land in the United Kingdom is given in the "Statistical Abstract as £68,000,000, and the value for 1902-3 as £52,000,000."

On the basis of 30 years' purchase for 1877-81 (which is probably too high for a considerable portion of the United Kingdom outside England), and 22½ years' purchase for 1902-3, the reduction in value amounts to £870,000,000—equal to 42·65 per cent. Farmers pay to landowners annually an amount that on the average probably equals 25 per cent, or one-fourth of the gross farm revenue (which includes the value of everything sold outside agricultural holdings and farm produce consumed in farmhouses).

A. Average gross farm revenue, June 1872-77	} £255,000,000 ÷ 4 = £63,750,000
B. Average gross farm revenue, June 1900-5	

Reduction in period B.	. £70,000,000	£17,500,000 = 27·45%
------------------------	---------------	----------------------

$$\begin{aligned} £63,750,000 \times 28 &= £1,785,000,000 \\ 46,250,000 \times 22\frac{1}{2} &= 1,040,625,000 \end{aligned}$$

On this basis the reduction in the value of land occupied by farmers was	} £744,375,000 = 41·7%

CAPITAL EMPLOYED BY FARMERS.

Annual average, June 1872-77 . . .	£450,000,000
Annual average, June 1900-5 . . .	350,000,000
Decrease . . .	<u>£100,000,000 = 22·22%</u>

In comparing the value of the total quantity of land now occupied by farmers with the quantity occupied in the 'Seventies, it should be remembered that a large area of valuable land then occupied by farmers has since been sold for the extension of towns and railways and for country residences. The quantity disposed of in Great Britain since 1871 has been extensive: whatever the quantity may have been, the amount received for it that was not used by landowners for estate improvements should be taken into account when the reduction of landowners' capital is under consideration. Even if landowners did not obtain more than £250 an acre for the land sold for other than agricultural purposes, they must have received a very substantial sum during the period alluded to (1871-1905).

It may be interesting to compare the joint capital of landowners and farmers in connection with agricultural land on the basis of the last-named estimates.

LAND OCCUPIED BY FARMERS.

JOINT CAPITAL OF LANDOWNERS AND FARMERS.

Average, June 1872-77	£2,235,000,000
Average, June 1900-5	1,390,000,000
Reduction	<u>£845,000,000</u>

If these figures are substantially correct, it would appear that during the five years from June 1872 to June 1877, 20 per cent or one-fifth of the joint capital was contributed by farmers, while during the five years from June 1900 to June 1905 farmers contributed 25 per cent or one-fourth of the joint capital.

During the twenty-five years from 1853 to 1878 there was a very great increase in the value of land and in the capital employed by farmers.

GROSS INCOME FROM "LANDS" RETURNED UNDER
SCHEDULE A.

ENGLAND AND WALES.

1852-53 . . .	£41,000,000	1879-80 . . .	£51,800,000
1862-63 . . .	41,000,000	1882-83 . . .	48,400,000
1872-73 . . .	49,000,000	1892-93 . . .	40,800,000
1877-78 . . .	51,700,000	1902-03 . . .	36,600,000

It will be seen that the whole of the great increase that took place during the twenty-five years that followed 1852 had disappeared by 1893, and that in 1902-3 the assessment was £4,400,000 less than in 1852-53. The highest point reached, according to the income-tax returns, was in the year 1879-80, the worst farming year in the memory of any one now engaged in the industry.

1879-80	.	.	.	£51,798,950
1902-3	.	.	.	36,624,408
Reduction	.			<u>£15,174,542</u> = 29·3%

In Scotland the highest point was also reached in 1879-80.

1879-80	.	.	.	£7,769,303
1902-3	.	.	.	5,883,487
Reduction	.			<u>£1,885,816</u> = 24·28%

The reduction in Scotland was, relatively, 5 per cent less than in England and Wales. In 1902-3 the amount was almost exactly the same as in 1857-58, the reduction being only £48,500.

According to the estimate of the late Sir James Caird, the capital invested by farmers in live stock in the United Kingdom in 1853 was £146,000,000, and in 1878 £260,000,000. The value in June 1905 was about £216,000,000, or £70,000,000 (=48 per cent) more than in 1853.

Although there has been a very severe fall in the value of land from the extreme value reached between 1875 and 1879, the present value compares far less unfavourably if we go back to 1850-52. With regard to live stock, both in quality and in value the present position is far better than it was in the middle of the nineteenth century. Barley and oats are worth nearly as much per quarter now as in 1851; wheat about 10s. per quarter less. It is right to add that though the income-tax figures do not reveal a very great reduction in the gross income from "lands" in Great Britain, going back to 1852, a large amount of capital that was invested by landowners in improving their estates has disappeared. On the other hand, a large sum has been received by landowners for property sold for the extension of towns and railways, and for country residences.

The following table shows that Scottish farmers have not discarded the plough to the same extent as English and Welsh farmers. Converting arable land into grass has, in some districts, been carried too far in England. By extending the rotation from a four-course to a seven-course the result, where the rain-

fall is not above the average of England, would probably have been more satisfactory than by abandoning the plough, except on farms where the land is exceptionally strong in character.

No. OF ACRES—AVERAGE FOR THE FIVE YEARS 1871-75.

	Permanent grass	Arable.	Total.	Arable. Per cent.
England . . .	10,216,981	13,695,437	23,912,418	57·28
Scotland . . .	1,084,983	3,475,842	4,560,825	76·21
Wales . . .	1,581,558	1,070,925	2,652,483	40·38
Great Britain . .	12,883,522	18,242,204	31,125,726	58·6

No. OF ACRES, 1905.

	Permanent grass.	Arable.	Total.	Arable. Per cent.
England . . .	13,760,592	10,850,594	24,611,186	44·08
Scotland . . .	1,450,726	3,430,259	4,880,985	70·27
Wales . . .	1,989,176	805,485	2,794,661	28·82
Great Britain . .	17,200,494	15,086,338	32,286,832	46·72

GREAT BRITAIN.

Total increase in crops and grass, 1,161,106 acres :—

	Increase.	Per cent.
England . . .	698,768	2·92
Scotland . . .	320,160	7·02
Wales . . .	142,178	5·35
	<u>1,161,106</u>	<u>3·73</u>

Decrease in arable land :—

	No. of acres.	Per cent.
England . . .	2,844,843	20·77
Scotland . . .	45,483	1·31
Wales . . .	265,440	24·79
	<u>3,155,766</u>	<u>17·3</u>

With regard to live stock, the total quantity since 1871-75 has increased to a larger extent relatively in England and Wales than in Scotland; but the average quality of the beef produced in Scotland continues to be of considerably higher quality than

that produced in England and Wales. Estimating the average live-weight of stock of all ages to be 8 cwt., 6 cwt., $\frac{2}{3}$ of 1 cwt., and 1 cwt. respectively for horses and ponies, cattle and calves, sheep and lambs, and pigs, the following comparative result is arrived at:—

LIVE-WEIGHT IN CWTs.

	Ave live 1871-75	1905.	Increase.	Per cent.
Wales	55,531,145	61,456,170	5,925,025	10 $\frac{2}{3}$
Scotland	13,730,230	14,413,230	683,000	5
	69,261,375	75,869,400	6,608,025	9.54

LIVE-WEIGHT IN CWTs., 1871-75.

	England and Wales.	Scotland.	Total.
Horses of all ages	8,876,032	1,429,216	10,305,248
Cattle and calves	28,114,716	6,764,022	34,878,738
Sheep and lambs	16,221,673	5,370,842	21,592,515
Pigs of all ages	2,318,724	166,150	2,484,874
	55,531,145	13,730,230	69,261,375

LIVE-WEIGHT IN CWTs., 1905.

	England and Wales	Scotland.	Total.
Horses of all ages	10,928,376	1,651,088	12,579,464
Cattle and calves	34,558,350	7,363,770	41,922,120
Sheep and lambs	13,674,738	5,268,158	18,942,896
Pigs of all ages	2,294,706	130,214	2,424,920
	61,456,170	14,413,230	75,869,400

There were 623,582 more sheep and lambs in Wales in 1905 than the average number in 1871-75. In Scotland in 1905 the number was only 136,910, or 1.9 per cent less than the average for 1871-75. In England there was a serious reduction—4,019,490 = 27.35 per cent. But notwithstanding the great

decrease in England in the number of sheep and lambs, the number annually marketed in the United Kingdom during the five years from June 1900 to June 1905 out of the number enumerated, was in round figures 500,000 more than during the five years from June 1872 to June 1877, as the following calculation proves:—

Average number of sheep and lambs in June 1872-76 . . .	33,663,850
Average number of sheep, exclusive of lambs, June 1873-77 . . .	21,445,450

Number sold or lost out of the number enumerated . . .	12,218,400
	<u>=36·29 %</u>

Average number of sheep and lambs in June 1900-4 . . .	30,141,070
Average number of sheep, exclusive of lambs, 1901-5 . . .	17,852,420

Number sold or lost out of the number enumerated . . .	12,288,650
	<u>=40·77 %</u>

Assuming that on the average 4 per cent of the sheep and lambs enumerated were lost, the average number annually marketed (exclusive of lambs born after one census and sold before the next) was as follows:—

	Fat sheep and lambs.	Per cent of the number enumerated.
Average for June 1872-77 . . .	10,583,800	31·72
Average for June 1900-5 . . .	11,083,000	36·77
Increase	<u>499,200</u>	<u>5·05</u>

It is earlier maturity that has made it possible to produce more mutton and lamb now annually from the reduced flocks than from the larger flocks that formerly existed.

For the same reason the proportion of cattle now annually marketed is larger than it was thirty years ago.

The improvement in production to which I have alluded is an advantage of great importance to farmers, and also to landowners and to the country. There is still great room for improvement in the quality of the cattle of this country: when it is accomplished, times will be brighter both for landowners and farmers. The best herds in the United Kingdom are universally admitted to be unequalled in quality, and there is no reason why the supply of home-fed beef of the best quality should not be on a much larger scale than it is at present.

Mortgaged Estates.

The unfortunate position in which many landowners both in England and Scotland are placed in at present is largely due to the fact that their estates were mortgaged when land was high

in price. The rate of interest paid involved a loss of income from the first equal to at least 1 per cent on the amount of the loan. When land that was worth £25 an acre in 1850 increased in value to £30 an acre—as it did in the 'Seventies—a large number of owners of small estates took advantage of the high prices that then prevailed and sold their farms to landowners who desired to enlarge their estates. Wherever estates were considerably enlarged by the aid of borrowed capital, the result has proved to be disastrous. The capital advanced on mortgage in the 'Seventies usually carried 4 per cent interest.

The prices paid for farms in good order equalled thirty times the gross rent. On well-managed estates in corn-growing districts the average annual expenses equalled 25 per cent, or one-fourth of the gross rent. The net return on capital invested in land when the price equalled thirty years' purchase seldom exceeded $2\frac{1}{2}$ per cent. Even in the exceptional cases where loans were secured at $3\frac{1}{2}$ per cent interest, the land held by the aid of the loans involved a loss equal to 1 per cent on the amount of capital borrowed. Where 4 per cent was paid, as was usually the case, the annual loss equalled $1\frac{1}{2}$ per cent. Had land continued to rise in value, the increased value might have compensated for the loss of interest; but as a matter of fact the small owners, in most cases, sold their properties when prices were at the highest or nearly so. Landed estates gradually fell in value, and are now on the average worth about 40 to 42 per cent less than they were thirty years ago. The average fall in farm rents appears to have been about $27\frac{1}{2}$ per cent.

The following figures indicate clearly that where the mortgage loan amounted in 1875 to half the value of the estate, and carried, and still carries, $3\frac{1}{2}$ per cent, there can be no net income at the present time except by withholding necessary expenditure; and it is impossible for landowners who are in this trying position, brought about in many cases by the too sanguine views of their predecessors, to maintain their estates in good order unless they have other sources of income.

The landowners concerned are not the only sufferers. Their tenants, however industrious they may be, cannot possibly obtain from the land the increase it is capable of when the necessary capital for its improvement is not forthcoming. It is impossible to farm profitably where the land is waterlogged, and where suitable accommodation for stock is not provided. The serious decline in the productive power of the many heavily mortgaged estates in this country is also a national loss which calls for early attention. It was the opinion of the late Mr Gilbert Murray, who was one of the ablest and most experienced land-agents in England, that the outlay necessary to

maintain an estate in good order ought, by law, to be regarded as a first charge on the gross rent, and that the net rent alone should be liable for mortgage interest:—

ILLUSTRATION.

Value of a landed estate in 1875	£600,000
Value of the same in 1904, reduced by 40 per cent	360,000
Mortgage £300,000, at $3\frac{1}{2}$ per cent interest—	
Annual mortgage interest	10,500
Estate expenses, including agency, but exclusive of mortgage interest, 25 per cent or one-fourth of the gross rent.	
1875—Gross rent	£20,000
Estate expenses	£5,000
Mortgage interest	10,500
	<u>15,500</u>
Net income	<u>£4,500</u>
1904—Gross rent	£14,400
Reduced estate expenses	£3,600
Mortgage interest	10,500
	<u>14,100</u>
Net income	<u>£300</u>

It may be useful to compare this deplorable result with that of an unmortgaged estate of the same character and rental value, but only half the size, assuming for this purpose that the rent and estate expenses were in each case gradually reduced.

	Thirty years' average rent.	Thirty years' average expenses and interest on mortgage.	Average net income.
Free estate	£8,600	£2,150	£6,450
Mortgaged estate	17,200	14,800	2,400
Difference in receipts and expenses and in net income	8,600	12,650	4,050

Gain in net income by the free estate in thirty years	£121,500
40 per cent loss of value in the mortgaged estate	£240,000
40 per cent loss of value in the free estate	120,000
Difference in favour of the free estate	<u>120,000</u>
	<u>£241,500</u>

Average annual advantage in the thirty years, £8050.

FREE ESTATE.

1875—Gross rent	£10,000	
Estate expenses		£2,500
Net income		<u>7,500</u>
		£10,000
1904—Gross rent	£7,200	
Estate expenses		£1,800
Net income		<u>5,400</u>
		£7,200

The owner of the free estate is still in possession of a substantial income, although the reduction from the high level of 1875 to the comparatively low level of 1904 is a large one. There is this, however, to be said—viz., that the purchasing power of a sovereign at the present time, so far as the necessities of life are concerned, is considerably greater than it was in 1875 and throughout the period of high prices.

It has been shown that in the case of a reduction of 40 per cent in the value of the mortgaged estate, the net income has practically disappeared, having been reduced to £300 a-year. The Royal Commission on Agriculture estimated the fall in value to have been much more than 40 per cent; but even 42 per cent would be sufficient to sweep away the net income entirely.

£600,000 ; rent in 1875 on the thirty years' basis	<u>£20,000</u>
42 per cent	<u>252,000</u>
Reduced value	<u>£348,000</u> ; rent on twenty-five years' basis
	<u>£13,920</u>
Reduced estate expenses	£3,480
Mortgage interest	<u>10,500</u>
	<u>£13,980</u>
Total Dr. excess of Cr., £60.	

The 40 per cent reduction left the mortgaged estate worth £360,000, or £60,000 over the £300,000 mortgage loan. If the estate were sold and the £60,000 were invested in a small estate at not exceeding twenty-five years' purchase, the net income would be increased from £300 a-year to £1800.

Cost of estate, £60,000 ; rent on twenty-five years' basis . . .	£2400
Estate expenses	£600
Net income	<u>1800</u>
	£2400

Shakespeare well said that

“Borrowing dulls the edge of husbandry.”

How severely some landowners have suffered by the fall in the value of land purchased at high prices may be gathered from the following fact, which is within my personal knowledge. An estate in Cambridgeshire that cost the owner, by the time he had rebuilt or substantially improved the farmsteads and cottages, and drained all the waterlogged land, £71,000, was sold for £21,000. The owner's loss by this investment was £50,000, or over 70 per cent of the cost of the estate, including the improvements alluded to.

Landed estates can now be purchased at prices that are far more likely to improve in most cases than to fall, if the population continues to increase at anything approaching the present rate of over 1000 a-day. Land can be purchased at prices that vary from twenty to forty times the rent, according to the character of the estate and its position. In the immediate neighbourhood of growing towns, forty years' purchase may have to be paid because of its prospective building value. Twenty-five years' purchase probably represents the average at present for estates in Great Britain. Under good management the net return on the capital invested in a well-equipped estate is fully 3 per cent, apart from the value to the owner of the house and sporting rights—a return that compares favourably with consols, and is far more attractive.

The kind of estate that is most likely to give a higher net return in the near future than can at present be obtained *is one that is naturally fertile, and that only requires re-draining to make it productive*. Estates in this condition are usually sold below their real value, because the appearance of the land is uninviting, and therefore fails to call forth active competition.

Taking the case of a small estate of this kind that can be purchased for £40,000, the net return in its present condition being £1200, or 3 per cent on the cost. Assuming that £10,000 can be employed in improvements of a remunerative character, for which the tenants would readily pay 5 per cent interest, especially for draining, the good result of which is quickly apparent, the net return from the total capital (£50,000) invested would then be £1700 = 3·4 per cent ($3\frac{2}{5}$). The estate, after these improvements had been carried out, could probably be sold, if desired, for at least £52,500—equal to twenty-five years' purchase of the combined rent and interest on improvements, which together would amount to £2100.

It is of great importance to inquire carefully into the past history of an estate before purchasing, particularly as to its productive power when it was in good tenantable order. The advisability of securing tenants that are enterprising and persevering, and who have a thorough knowledge of the art of stock-breeding—now the sheet-anchor

of farming—is manifest. It is also important to purchase in a district where the labourers are industrious and well qualified for their work. Good roads and proximity to markets are advantages which should never be overlooked. Land that is exceptionally costly to cultivate, and land that is almost wholly unproductive in seasons of drought, it is best to avoid. The existence of limestone on an estate, where lime of good quality, suitable for agricultural purposes, can be obtained at a moderate cost, is a great advantage, particularly on estates where difficulty may be found in getting “seeds” (clover, &c.) to stand, and where root crops suffer by finger-and-toe disease. Where the tenants are ready to co-operate with the landowner in carrying out improvements that are for their mutual interest, the work of improving an estate is a most interesting, useful, and, with good management, remunerative occupation.

Costly Farm Buildings.

Costly farm buildings were never necessary for the profitable management of a farm. All outlay in connection with farming that is unnecessary is always unremunerative. As a former Agricultural Editor of ‘The Field,’ the late Mr Henry Evershed, once said, “There is undoubtedly economy in preparing and distributing food to a large number of animals concentrated within a small compass; but what is saved in labour and in roots is a poor compensation for what is lost by disease and accident, which seem to hang about some splendid farm-steadings most persistently. For one calf or foal which dies from exposure, ten go to the bad from cramp and taint; and both of these plagues are rarely long absent from costly farm buildings.”

An impervious floor is far more important than an impervious roof. Impervious floors, for sanitary reasons, are a necessity wherever stock are housed; but for sheltering all kinds of store stock, open-boarded roofs are far better than slated roofs, which are much more costly. Sunshine and fresh air are essential to success in stock-breeding. No building provided for sheltering stock can be regarded as satisfactory unless Nature’s freely-bestowed healers are admitted abundantly. A sunny aspect and a dry site should always be selected for buildings in which stock are to be housed. A well-paved yard covered by an open-boarded roof, and boarded on three sides and open to the south, provides economical, healthy, and sufficient shelter for all kinds of store stock. Such yards enable farmers to avoid the waste of straw and manure that necessarily takes place when yards are to a large extent uncovered. But, except in cold exposed northern situations, a yard only partly covered is infinitely more desirable for store stock than a slated building.

The cost of harvesting, and of carting manure on to the land, could, on many farms, be greatly reduced by providing open-boarded cattle-yards in close proximity to the fields where the crops are grown. In showery seasons the reduced distance of carting the corn would be a special advantage, as the crops, when the opportunity came, could then be quickly secured. The 5 per cent charged by the landowner would be cheerfully paid by the farmer, because the saving in labour would far exceed the cost by which it was secured.

The most important conditions for success in connection with the investment of capital in land are—(1) naturally fertile soil. (2) Tenants who thoroughly understand their business. (3) Industrious and capable labourers. (4) Expenditure calculated to secure the largest production at the least possible cost, and the execution of all improvements that are necessary for profitable production and to avoid waste. (5) Good markets. (6) Farms amply stocked with stock of the most suitable type for the district. (7) Moderate rents and security of tenure. Wherever these conditions largely prevail, land purchased on the basis of the rents now ruling may be regarded as the best high-class investment to be found in this country.

In April 1889 Messrs Norton, Trist, & Gilbert, of London, contributed an interesting statement of the prices realised by their firm for landed estates during one hundred years—1781-1880. Their letter was entitled "A century of land values." The average price per acre obtained for the 875,936 acres sold was £35, 5s. 6d.; the average rent per acre was about 23s. 6d.; the average number of years' purchase slightly exceeded thirty.

AVERAGE PRICE PER ACRE.

1841-50	.	.	.	.	.	£34 10 6
1851-60	.	.	.	.	.	37 17 10
1861-70	.	.	.	.	.	42 15 4
1871-80	.	.	.	.	.	50 16 5

The average price per acre for the forty years 1841-80 was £42, 2s. The average rent for that period was 27s. 4½d. per acre.

In the course of his able address, as President, at the Surveyors' Institution on the 13th of November 1905, Mr Charles Bidwell said in reference to the present value of land: "It may be a bold statement to commit oneself to, but I am of opinion that we have touched bottom, and that landowners and farmers, having been through the fire of adversity, are rapidly adapting themselves to the changed condition of affairs."

The farmers of this country have given ample proof of their courage and patience: however great the difficulties that they

may be called upon to face in years to come, they are not the men to give in. They value their rich heritage of gathered experience, and they recognise that science and practice must go hand in hand. The late Sir Frederick Leighton once said that "true genius knows no hurry; patience is of its essence, and thoroughness its constant mark." I have faith in the men who are engaged in our oldest industry, and I believe that their business—wherever it is directed by intelligence and sustained by capital—will not be unrewarded.

Agriculture is certain to survive. "While the earth remaineth," we have the assurance that "seedtime and harvest shall not cease."

"Honour waits o'er all the earth,
Through endless generations,
The art that calls her harvest forth,
And feeds the expectant nations."

THE BOOMING OF FRUIT-GROWING.

By WILLIAM E. BEAR, Hailsham.

FOR some years past—indeed, ever since Mr Gladstone advised farmers to produce jam instead of wheat—the favourite panacea of our mentors for agricultural depression has been the increased raising of fruit. Excellent fruit of all the hardy kinds, it is triumphantly pointed out, can be produced in this country. Then why not grow all that the population consumes? In one connection this question is supremely foolish, because a large proportion of the fruit we import comes from climes more warm than our own, and therefore at periods when the corresponding home products are not ripe. If the United Kingdom were one great fruit-garden, our imports of foreign fruit would still be on a large scale.

Apart from the point last mentioned, however, a very curious density appears to pervade the minds of many people in reference to the whole question. It never seems to occur to them that the only way of keeping foreign and colonial products of any kind out of this country is that of underselling our foreign and colonial competitors. To produce enough of anything for home consumption would not *per se* be effectual. We must also sell the product at a price which would be ruinous to outsiders who can produce it most cheaply.

In the case of fruit, before even foreign produce which is ripe no sooner than our own could be kept out of the country by lowness of price, British fruit to a great extent would have to be left ungathered, because there would be a loss in picking and marketing it.

Fruit-growing in suitable soil and with good management has paid fairly, though not at all extravagantly, in the past, as a rule; but it would soon become entirely unprofitable if the great and rapid extension of the industry now so freely recommended were accomplished. Most of the estimates as to profits from fruit-growing published in daily papers and magazines are absurd exaggerations.

Moderate Progress alone advisable.

That there is room for steady and moderate extension of the fruit area of the United Kingdom may be admitted as a matter of course; but it is important to point out that there is nothing in existing circumstances to warrant extension in excess of the proportion commensurate with the increase of our population. Such extension has been in progress for many years, and, indeed, ever since the statistics of fruit-growing were first collected. Those statistics, it is to be observed, are very far from being complete in relation to the increase in the fruit area, as they are restricted to holdings of over one acre, to the exclusion of the many hundreds of thousands of allotments, small orchards, and gardens in which fruit-trees and bushes have been planted in recent years. It is well known that there has been a great movement among business men in all large towns towards residences in the surrounding rural districts, and nearly all the thousands of houses erected outside the populous suburbs, and a considerable proportion within them, have gardens attached in which fruit has been planted. Numbers of the houses have considerably more than an acre of ground attached to them, and some have many acres; yet, as they are neither agricultural holdings nor market-gardens, they are not covered by the official returns. It is probable, therefore, that the increase of the fruit area within the last ten or twenty years has been double that which is indicated by the statistics.

The Agricultural Returns show that the area of orchards on agricultural holdings of one acre or more in Great Britain rose from 221,254 acres in 1896 to 247,687 acres in 1906, denoting an increase of 26,433 acres, or nearly 12 per cent in ten years. In the same period the area under small fruit, some of which is grown in the orchards, advanced from 76,245 to 80,226 acres, the increase being 3981 acres, or 5·2 per cent. The smallness

of this latter increase may be explained by the fact that between 1888, when the first return was made, and 1896 the small-fruit area of Great Britain had more than doubled, the figures being 36,724 acres for the former year and 76,245 for the latter. The slackening of the increase, in the light of what is known about prices, may be taken as an indication that it had been rapid enough before 1896 to cause frequent gluts in the markets, thus checking the ardour for extension. In the eighteen years ending with 1906 the increase was 43,502 acres, or over 118 per cent.

In Ireland the expansion of fruit land has begun only recently. No returns have been made of orchards in that country, and those of small fruit were started as recently as 1899, when they were inaccurate, in consequence of a misunderstanding of what was to be included under the designation. In 1900 the area returned was 4350 acres, and in 1905, the latest year for which the figures are available at the time of writing, it was 4531 acres. There is room, no doubt, for a much greater expansion of fruit-growing in Ireland, and it is now in progress under the encouragement of the Department of Agriculture.

The greater portions of these large increases in fruit acreage occurred before the booming of fruit-growing became common, showing that business men are fully alive to the advantages of fair openings for enterprise without any whipping-up. Moreover, as already stated, there is reason to believe that the total increases have been double those which are covered by the Agricultural Returns.

The Fruit Industry Committee.

The Departmental Committee on the Fruit Industry of Great Britain have done much to boom it, and have made some recommendations as to legislation which, if adopted, would lead to a very dangerous expansion of the fruit area. After citing the evidence of many growers on either side of the question of extension, they declared that "it is probable that a large extension of the industry at home might profitably be undertaken, if carried out with judgment, and that, if certain difficulties and drawbacks are removed, fruit-growing may progress as rapidly in the future as it has in the past."

It is to be feared that many persons will take the last part of this declaration of opinion without due consideration of the proviso preceding it. Nearly all the witnesses whose evidence in favour of extension is quoted, qualified their statements by basing them upon the initiation of a better system of distribution than that which prevails at present; while one extensive grower significantly said that "much more fruit-growing might

be undertaken in this country if the foreigner did not increase his as well."

The "difficulties and drawbacks" alluded to by the Committee as requiring removal, if the great expansion indicated by them is to take place with safety, make a formidable list. As summarised in the report of the Committee, they include insufficiency of knowledge as to the right kinds and varieties of fruit to plant, soil, manuring, the pruning and general treatment of trees, diseases and insect pests and methods of combating them, and packing and grading; difficulties as to land tenure in reference to tenants' capital invested in fruit-planting; excessive valuation of fruit holdings for local rates and imperial taxation; excessive and preferential railway rates, unpunctual delivery, bad handling, pilfering, inadequate service, and refusal to pay claims; foreign competition and tariffs hostile to British fruit; insufficient inspection, especially of foreign fruit; difficulty of obtaining labour; insufficiency of markets and other market grievances; the ravages of birds; and the effect of the rise in the price of sugar upon the jam industry.

Except in reference to the fiscal question and preference railway rates (the former of which the Committee decided at the outset of their inquiry not to deal with, while they left the latter subject for the Committee specially appointed to consider it), the Committee made some recommendations, several of which are excellent; but they touched only the fringe of our system of distribution, the imperfections of which form the chief obstacle to profitable fruit-growing. Here it is to be urged that, if the removal of even the most serious of the disadvantages enumerated be necessary to the safety of any great expansion of the fruit area in this country, the fact should have been stated in connection with the formal list of recommendations, of which there are no fewer than forty. Surely an industry which needs reforms in so many directions should not be boomed until a complete reformation in it has taken place. The Committee, however, have proposed the application of State funds for the expansion of the fruit area, without any suggestion of waiting for the removal of hindrances to success in the fruit industry.

The Seamy Side of Fruit-Growing.

This is almost fully indicated by the list of disadvantages given above to those who know about the details; but the great cost of labour should be added to the difficulty of obtaining sufficient pickers in many districts.

With respect to land tenure, the subject is too wide for proper treatment in this article; but I know of only two systems suit-

able to the great investment of capital essential in fruit-growing, and they are ownership of the land to be planted and the Evesham custom. It is true that the Market-Gardeners' Compensation Act gives such security as can be ensured under the valuation system, but landlords generally refuse to let land under it.

One of the recommendations of the Committee is the adoption of the Evesham system, with one modification. The recommendation is that, "In cases where a tenant gives notice to quit, he shall not be entitled to receive compensation unless he presents to the landlord a successor who is willing to take over the holding at the same rent; that in the event of his so doing, and the landlord accepting his nominee, the compensation be paid directly by the new tenant to the old tenant; but that the landlord have the right to refuse to accept the outgoer's nominee, in which case he must pay compensation to the outgoer under the provisions of the existing law." Under the Evesham custom the tenant sells his improvements to a successor accepted by his landlord, whoever gives notice to quit; and the system is said by good authorities in the district to be satisfactory to all parties concerned.

That the taxation grievance is a real one to fruit-growers especially I know to my cost, having had my assessment put up enormously in consequence of fruit-planting, and long before there had been time for the plantations to pay expenses.

Notwithstanding the Report of the Committee on the subject, it must be maintained that railway abuses handicap fruit-growers in this country seriously.

It is not necessary to dwell upon the disadvantages of foreign competition to fruit-growers; and so long as one-sided free trade remains the fiscal system of this country, it is of no use to complain of hostile foreign tariffs. But for these tariffs, however, there is no doubt that a considerable export trade in fruit, and particularly hothouse produce, would be established, on account of the superiority of British fruit.

Birds and Insect Pests.

The ravages of birds claim serious attention, as they are among the greatest difficulties in the way of profitable fruit-growing. They were always bad enough, but have become enormously greater since the Wild Birds Preservation Acts were passed. This is less on account of the direct orders for the preservation of certain birds than in consequence of the general scare against bird-nesting which the orders cause among the inhabitants of rural districts ignorant of the law.

In the first place, bullfinches, sparrows, and other small birds partially denude gooseberry-bushes and plum-trees of their buds in the winter,—not only destroying the embryo fruit of one season, but also rendering the denuded portions of branches permanently barren. Later on, when fruit is ripe, immense numbers of blackbirds, thrushes, starlings, wood-pigeons, doves, tits, and other birds prey upon it, spoiling for market a hundred times as much as they eat.

Then, in addition to the ravages of birds, the fruit-grower has to incur great expense in fighting against insect pests and various fungoid and other diseases which, in spite of all efforts to combat them, do great damage to fruit crops. Indeed the outlay in wages for labour, and in machines and materials for spraying involved in these operations, is one of the many heavy expenses of the fruit industry.

The Committee's Recommendations.

Space is not available for noticing fully the Fruit Industry Committee's remedies for the disadvantages they enumerate. They make no fewer than forty recommendations and suggestions,—a number which seems to show that the industry requires a good deal of bolstering up before the great extension of it which they think desirable under certain conditions can safely be made. They also propose a good deal of coddling by the State,—partly to remedy existing disadvantages, and partly to promote otherwise the extension of fruit-growing.

In reference to the great and continually growing excess in the number of wild birds, the Committee urge that county councils, in the publication of any orders made under the Wild Birds Protection Acts, should clearly state the powers of owners and occupiers of land under these Acts. They suggest that the State should lend money to landowners for the payment of compensation to fruit-growers on leaving holdings, and make some proposals to remedy the abuses of the taxation of fruit-growers, market-gardeners, and glass-house nursery-men, and the exactions, preferences, and injustice of railway companies. Co-operation among growers of fruit is another suggestion.

The Committee also favour the giving of State aid to enable men not only to purchase small holdings, but likewise to equip them for fruit culture. But all proposals for setting men up in business with the money of the taxpayers are objectionable from several points of view. It is not right to risk the taxpayers' money in such a way, and it is unfair to men who are struggling to make ends meet by means of their own resources, often obtained by many years of stringent economy and self-

denial, to set up against them fresh competitors by means of State funds.

The only way in which fruit-growers and market-gardeners on a small scale can get a living, as a rule, is by selling their produce by retail in the nearest towns. If they had to sell in the wholesale markets, their returns would be too small to yield them a living profit. In some towns there are retail fruit and vegetable markets, in which small holders can have stalls; but where there are no such markets, the only plan of disposing of produce with sufficient profit is that of hawking it from house to house. The number of small holders engaged in one or other of these methods of doing business is already so large that they compete quite keenly enough with each other, and the number of them increases at least as rapidly as that of possible customers, in most places. Then if, by means of State coddling, their number in any district should be suddenly increased by 50 per cent, or even by 25 per cent, as might easily happen, many of the old and new holders alike would be ruined.

The Marketing System.

The most formidable of all the disadvantages of fruit-growers named in the Report is described as "the insufficiency of markets, and other market grievances." The insufficiency of markets is treated to some extent by the Committee, while the far more important "other market grievances" are entirely ignored. There must be something wrong in a marketing system under which producers of fruit receive less than half what consumers pay, and it is unfortunate that the Committee did not fully investigate this serious grievance.

At present the bulk of the fruit grown in Great Britain is consigned to salesmen in the great markets, who sell it on commission to shopkeepers or jam manufacturers, though considerable quantities of soft fruit are sold directly by growers to the latter. The salesmen return just what prices they think proper, and growers have no means of testing the returns. All that they can do for their own protection is to consign only to men of honourable reputation, and to trust them implicitly. But there are rogues in all trades, and some of the most crafty may manage to keep clear of scandal.

Neither producers nor salesmen, however, have any power to prevent the chief cause of low wholesale prices for fruit, which is the extravagant profit demanded by the retail traders. To state this is not necessarily to declare that the profit charged is more than sufficient to afford the retailers a fair living. There are far too many of them, and each one has a house-rent to pay, and possibly a family to support, out of a business, in nine cases

out of ten, very small. Moreover, the system of sending round to householders for orders, and then delivering fruit worth, perhaps, only a few pence, possibly giving credit also, is an extremely costly one, for which producers and consumers have to pay. It is not surprising, therefore, that retailers of fruit prefer large profits and small sales to large sales and small profits, because their expenses for horses, carts, and labour would be greatly increased under the latter conjunction.

The result is that the consumption of fruit, in consequence of the high retail prices charged for it, is vastly less than it would be under a less costly system of distribution, and thus artificial gluts in the wholesale markets are caused. Here we have a "vicious circle," to use a common phrase. Retailers charge high prices, which reduce the consumption of fruit, cause gluts in the markets, and thus enable them to keep on buying at extremely low rates.

Expenses of Fruit Culture.

Probably few of those who glibly recommend farmers and others to go in for fruit-growing have any idea of the capital required in the first instance, or of the annual expenditure afterwards. Mr C. H. Hooper, a few years ago, made inquiries among his fellow-growers in Kent upon this subject, and gave a great number of details in a paper which he read at a meeting of the Surveyors' Institution. He estimated the cost of planting, including plants and trees, but exclusive of the preparation of the land, at £4 to £5 per acre for strawberries; £8 to £10 for raspberries; £6 to £9 for red or black currants; £10 to £14 for gooseberries; £30 to £36 for bush apples or pears; and £8 for standard apples 30 ft. apart, with £7 per acre extra where they are planted in pasture and have to be substantially protected against live stock. The annual cost of manuring, cultivating, picking, rail, carriage, and marketing, with rent and rates, he put at £16 to £25 per acre.

Mr C. D. Wise, until recently manager of the fruit farm of about 1000 acres at Toddington, in Gloucestershire, when taking part in the discussion on the paper, said that he thought the estimates were too low. He estimated that it cost £24 per acre to plant a mixed plantation of trees and bushes, exclusive of the cost of wire-netting where it is needed, and £20 to £25 per annum to pay all the expenses of an acre of fruit in full bearing. To rent such a plantation, he added, needed a capital of £30 per acre; while to take bare land, plant, and cultivate it, required a capital of £80 per acre. No doubt, in the latter sum he allowed for the losses incurred for some years before the plantation becomes remunerative; also for occasional years afterwards,

when losses would be incurred through partial or complete crop failures.

The novice in fruit-planting seldom takes sufficient account of the years during which his plantations will be sources of loss. Apples and plums do not usually pay expenses until the sixth season after planting, and for the first two years, as they should not be allowed to fruit, they return nothing, while in the third season the value of the crops is very small. In the meantime rent, or interest on capital invested in land-purchase, rates, labour, manure, and spraying materials, make very heavy outgoings. Small fruit is more quickly remunerative, particularly strawberries; but a mixed plantation of apples or plums and bush fruits, in spite of the returns on the latter, will seldom yield a profit before the fifth season from the time of planting. It is true that if strawberries or vegetable crops are grown between the trees and bushes for the first two or three years, the returns are greatly increased; but the labour is enormous, and the economy of horse cultivation is prevented.

The novice, too, will inevitably find that he has to buy his experience at a high rate, however well he may have studied the theories of fruit-growing or its practice on other holdings than his own. He may discover unexpected faults or defects in his soil, and he will certainly find that certain varieties among the fruits planted do not succeed well on his farm. In all probability, again, the damage done by insect and fungus pests and by birds will far exceed his expectation, as his expenses almost certainly will.

Recapitulation.

In the preceding remarks it has been indicated that the representations of the profits of fruit-growing have been enormously exaggerated by the boomers of the industry, while losses and difficulties have been as regularly ignored or minimised; that it is hopeless to attempt to stem the tide of foreign and colonial competition in the fruit markets; that the fruit area has been increasing at least as rapidly as the demand for its produce under the existing system of distribution, as indicated by gluts in the markets whenever there is even a fair crop; that the extension of that area by the setting up of new growers in business by means of State funds would be not only a hardship to payers of rates and taxes, but also unfair to men, and particularly to small holders, who have established themselves by their own resources, often after many years of hard work and stringent economy and self-denial; and that the disadvantages of the industry, particularly the system of distribution, are very serious.

Nothing but harm can come of the inconsiderate whipping-up of any branch of business. There are always plenty of men wide-awake enough to see any opening for enterprise that promises to be profitable; and it is desirable to leave the distribution of business energy and capital to the unbiassed judgment of investors, instead of endeavouring, by means of artificial stimulants, to multiply the members of one particular branch of industry.

THE CHEMICAL COMPOSITION OF BUTTER.

By CHARLES CROWTHER, M.A., Ph.D., Lecturer in Agricultural Chemistry in the University of Leeds.

ONE of the gravest problems with which the British dairying industry is faced at the present day arises from the alarming extent to which the practice of butter adulteration has undoubtedly increased in recent years.

The detection of such adulteration is at present based upon the investigation by chemical experts of samples taken in accordance with the Sale of Foods and Drugs Acts. The results of these investigations are interpreted by the analyst by comparison with "standards," one of which—the percentage of water—is fixed by law, whilst the others are left to his discretion. The practice is, in fact, similar to that followed in the case of milk, and is beset with similar difficulties owing to the fact that butter, like milk, is a mixture of widely varying composition. The extent to which the chemical composition of butter may vary is thus a matter of the highest importance to all concerned in the production, sale, and analysis of butter.

A large amount of information on this point was accumulated by the Departmental Committee on Butter Regulations appointed in July 1901, and was summarised in the Final Report issued in December 1903, in which the adoption of certain "limits" as criteria of purity was recommended.

The analytical evidence then available (1901) regarding the variations in chemical composition of butter produced in the United Kingdom was very meagre compared with the evidence available in the case of the chief Continental butters. For the information of the committee, therefore, a special inquiry was carried out during 1901-2 in the Government laboratory at the instance of the Board of Agriculture, in the course of which

nearly 400 samples of butter obtained from various parts of the country were examined. The results are given in detail in the Minutes of Evidence to Final Report, Appendix XXX., pp. 577-588.

The samples dealt with in this inquiry included two series of ten each from the Manor Farm, Garforth. Some of these Garforth samples were strikingly exceptional in chemical composition, and therefore, in view of this fact and of the urgent need for further data on the general question of the possibilities of variation, the writer commenced in March 1904 a series of analyses of the butter made from the mixed milk of the 15-20 cows kept on this farm. The analyses have been continued until June 1906, and comprise 126 samples.

No changes were made in the ordinary treatment of the cows, except during the period of the feeding experiment described by the writer in the 'Transactions' for 1906, pp. 110-142. During this period (Aug. 8-Oct. 9, 1905) some of the cows received a heavier allowance of decorticated cotton-cake than would otherwise have been the case.

The separation, ripening, and churning of the cream and the working, &c., of the butter were carried out in accordance with the ordinary practice of the Manor Farm Dairy, under the supervision of the Instructress, Miss A. D. M'Kerrow, to whom the writer is deeply indebted for the care taken in preparing and forwarding the samples. Unless otherwise stated, the butter was brined. The samples were forwarded to the University in 8-oz. wide-necked bottles fitted with cork-lined metal screw-caps, and were analysed as soon as possible after receipt.

It is greatly to be regretted that throughout the whole period the time available for the investigation of the samples has been so limited that only a few data could be determined with each sample. Especial importance has therefore been attached to the two points in respect of which "limits" were suggested by the 1901 Butter Regulations Committee—viz., the *water-content* and the "*Reichert-Wollny Number*."

The data obtained are recorded in Table VIII. (pp. 71-73), in which are given also further particulars concerning the samples.

In the following pages the data are discussed in respect to the evidence they afford as to the causes and extent of variation in the composition of butter. The opportunity is also taken of drawing attention to the chief conclusions arrived at in the Board of Agriculture inquiry and in the more extensive investigations carried out in recent years in other centres, notably in Holland and Denmark.

Average Composition of Butter.

Butter is a mixture in varying proportions of *water, milk-fat, curdy matter, and mineral matter* (chiefly salt).

The average composition of the Garforth samples (*vide* Table VIII., p. 73) was as follows:—

Water, per cent.	Fat, per cent.	Curd, per cent.	Salt, per cent.
11·7	86·7	0·8	0·8
(Mean of 119 samples)	(Mean of 49 samples)	(Mean of 50 samples)	(Mean of 84 samples)

The average composition of the samples dealt with in the Board of Agriculture inquiry (May 1901–May 1902) is given below¹:—

TABLE I.

	Water.	Fat.	Curd.	Salt.
	Per cent.	Per cent.	Per cent.	Per cent.
Garforth (20 samples) . . .	12·72	85·80	0·84	0·64
English butter (130 ") . . .	11·89	86·81	0·91	·81
Scottish butter (117 ") . . .	14·07	83·56	1·26	·88
Irish butter (98 ") . . .	13·40	84·09	0·88	1·63
All samples (340 samples) . . .	13·05	84·91	1·02	1·02

It will be noted that the averages for the two series of Garforth samples are in close agreement with each other and with the general average for the samples from English farms and dairies.

The Scottish average is appreciably higher in water and curd, but too much importance must not be attached to this, since, for reasons dealt with in the Report (Minutes of Evidence, Appendix XXIX., p. 505), the bulk of the samples were obtained from farms in the extreme north and north-west.

Variation in the Water-Content of Butter.

The extent to which the percentage of water may vary in genuine butter is a matter of the highest importance in view of the existing regulation of the Board of Agriculture—framed in accordance with the recommendation of the Departmental Committee—that, for the purposes of the Sale of Foods and Drugs Acts, butter containing more than 16 per cent of water shall be regarded as not genuine until the contrary is proved.

¹ These averages have been calculated by the writer from the data given in the Minutes of Evidence, Appendix XXX., pp. 579, 580. Samples were received from 13 English, 14 Scottish, and 12 Irish farms or dairies.

The maximum and minimum values recorded in the writer's analyses of Garforth butters, and in the course of the 1901-2 inquiry, were as follows:—

TABLE II.

	Percentage of Water—	
	Maximum.	Minimum.
Garforth, 1904-6 . . .	14.8	9.3
Garforth, 1901-2 . . .	15.52	10.23
English samples, 1901-2 .	19.27	9.14
Scottish samples, 1901-2 .	26.90	8.50
Irish samples, 1901-2 . .	16.03	9.98

It is of greater interest, however, to note the frequency with which the different percentages between these limits were met with. The following table will give some idea of this.

TABLE III.

Number of Samples of Butter containing Percentage of Water.												
	9 -10.	10.1 -11.	11.1 -12.	12.1 -13.	13.1 -14.	14.1 -15.	15.1 -16.	16.1 -17.	17.1 -18.	18.1 -19.	19.1 -20.	Above 20.
Garforth, 1904-6 .	7	23	52	23	12	2	..	..	...	...	..	.
Garforth, 1901-2 .	...	4	1	6	5	3	1	...	...	..	...	...
Other English samples, 1901-2	12	20	40	21	9	6	...	..	...	...	2	...
Scottish samples, 1901-2	3	8	8	25	18	18	18	6	4	4	2	3
Irish samples, 1901-2	1	4	8	15	32	24	6	2	..	...	...	...
Totals . . .	23	59	109	91	76	53	25	8	4	4	4	3
Percentage of total (459 samples)	5.0	12.9	23.7	19.8	16.6	11.5	5.5	1.7	0.9	0.9	0.9	0.7

95 per cent.

5 per cent.

These data furnish a striking vindication of the "standard." The only apparent exception is in the case of the Scottish samples,¹ which furnish no fewer than 19 of the 23 butters

¹ The unrepresentative character of these samples has already been referred to (p. 57).

containing more than 16 per cent of water. There is no apparent regularity in the occurrence of these excessively moist Scottish samples. They were distributed amongst 10 of the 14 centres from which samples were received, although indeed 5 centres were each responsible for only one such exceptional sample. In no case did the production of butter so highly charged with moisture appear to be the general rule, although it is obvious that the Scottish butters were in the main decidedly moister than the English samples. The explanation probably lies in differences in the general butter-making practice of different localities.

It is worthy of note that in the case of the 5 monthly samples prepared at the Kilmarnock Dairy School for the 1901-2 inquiry, the water-content ranged from 10.14 to 13.36 per cent (mean, 11.84 per cent)—limits which compare very favourably with those for the Garforth and other English samples.

It is clearly a matter of no difficulty, where approved methods of manufacture are practised, to produce butter containing less than 16 per cent of water. A limit of 15 per cent ought, indeed, very rarely to be exceeded.

Causes of Variation in the Water-Content of Butter.

The water-content of butter is affected by many factors, but is very largely determined by the nature and amount of the *working* or kneading to which it is subjected.

Good butter, as it comes from the churn, will contain on the average about 19 to 20 per cent of water. It is impossible, even were it desirable, to remove the whole of this water. Indeed, as shown above, butter containing less than 10 per cent of water is very exceptional.

The driest butter is, moreover, not necessarily the best in point of quality. In general, a water-content of 11-13 per cent will probably give the best results.

The extent to which the water can be removed in the working is determined largely by the degree of destruction of the "grained" texture brought about in the process. The more this granular texture disappears, the less effective will be the removal of water. Within limits, the softer the butter-fat the greater will be the destruction of "grain" produced by the working, and the moister, therefore, the resultant butter. Undue hardness of the butter-fat, especially if large-grained, will, however, also impede the removal of water.

The hardness of the butter-fat is notably affected by the nature of the food of the cow and the temperature of the dairy.

Obviously, then, in so far as they affect the consistency of the butter-fat, the *food of the cows* and the *temperature of the dairy* will exert an influence on the moistness of the final product.

This being so, in view of the great differences in these respects at different times of the year we may expect to find *seasonal* differences in the average water-content of butter. The following averages, calculated from the data under consideration, support this view:—

TABLE IV.—AVERAGE PERCENTAGE OF WATER IN BUTTER AT DIFFERENT SEASONS.

	Garforth. (1901-2. (1904-6.	1901-2 INQUIRY.			All samples.
		Engl-h.*	Scottish.	Irish.	
Spring (March, April, May)	11·7	11·1	12·7	13·0	12·1
Summer (June, July, Aug.)	12·0	12·5	14·5		13·0
Autumn (Sept., Oct., Nov.)	11·5	12·1	14·3	13·7	12·8
Winter (Dec., Jan., Feb.)	12·3	11·7	14·7	13·5	12·9
Mean: Spring + Autumn	11·6	11·6	13·5	13·3	12·4
" Summer + Winter	12·2	12·1	14·6	13·5	12·9

* Excluding Garforth samples.

It will be noted that in every case the maximum is either the summer or winter average, whilst the spring and autumn averages contain the minima. Taking the average of all samples, the effect of season would appear to be measured by a difference of about 0·5 per cent in the water-content.

Other factors which affect the water-content of butter are the *size of grain* formed in the churn, the *temperature of churning* and of the *water used for washing*, the use of *salt*, and the *interval between two workings, or between salting and working*.

In general, the lower (within the usual limits) the temperature of churning and of the wash-water, the smaller the size of the grains, and the longer the interval between salting and working, the drier will be the finished product. The use of salt also tends in the same direction, as the following data (Table V.) clearly indicate:—

TABLE V.—INFLUENCE OF USE OF SALT ON WATER-CONTENT.

COMPARISON OF SCOTTISH BUTTERS FROM SAME DAIRIES (1901-2 INQUIRY).

Average percentage of water	Salted (81 samples).	Unsalted (34 samples).
	13·68	15·34

These data illustrate very strikingly the now well-established fact that the judicious use of salt in butter-making (apart from "pickling") tends rather to diminish than to increase the proportion of water in the final product. The indicated difference of 1.66 per cent must, however, be regarded as extreme. The difference in water-content between well-made salted and unsalted butters is usually much less than this.

The salt remaining in the butter has apparently little or no influence on the water-content, as the following data show:—

		Percentage of Salt—	
		Above average (0.8).	Below average.
		Percentage of water.	Percentage of water.
Garforth (1904-6)	{	11.79	11.74
		(mean of 28 samples)	(mean of 52 samples)
1901-2 Inquiry		12.94	13.15
		(mean of 162 samples)	(mean of 178 samples)

A greater or less amount of salt will not of itself cause a higher or lower proportion of water.

BUTTER-FAT.

The characteristic ingredient of butter is, of course, the fat. On reference to Table I. (p. 57) it will be noted that, on the average, butter contains 84-86 per cent of fat.

It is in the nature of this fat that the chief difference between butter and "artificial butter" or margarine lies.

All fats (and fatty oils) are made up of combinations of glycerine with certain substances of the nature of acids. These combinations are referred to as glycerides, and the natural fats are mixtures of such glycerides.

The individual acids are to a large extent the same in all fats, but there is a great difference in the *proportions* in which they are present (combined, of course, with glycerine) in different fats.

These fatty acids may be roughly divided into two classes, viz.:—

Volatile Acids—i.e., acids which, when added to boiling water, readily pass away with the steam.

Fixed Acids—i.e., acids which cannot be vaporised in this way.

Butter-fat is sharply distinguished from the great majority of the natural fats, and in particular from those fats which are or may be used in the preparation of butter substitutes, by its

relative richness in glycerides of volatile acids and corresponding poverty in glycerides of fixed acids.

So great is the difference in this respect between the fat of butter and all other fats that the proportion of volatile acids is regarded by analysts as the safest guide in the detection of adulteration; and the Butter Regulations Committee, indeed, recommended the introduction of a "standard" based thereon (see below).

The accurate estimation of the proportion of volatile acids present (as glycerides) in a sample of butter is a matter of some difficulty, and the results obtained by different analysts are only strictly comparable when the methods used are identical in every detail. Accordingly the Principal of the Government Laboratory and the Society of Public Analysts have agreed upon a method which is now uniformly carried out in butter analysis. This method was originally suggested by Reichert, and has been modified in detail by Meissl and by Wollny, and is hence commonly referred to as the Reichert-Meissl or Reichert-Wollny method, the result obtained being referred to as the "Reichert-Wollny Number" of the sample of butter. A butter rich in glycerides of volatile acids will give a high Reichert-Wollny number, whilst butter poor in volatile acids will give a low Reichert-Wollny number, the average being about 27-28 (*vide* Table VI., p. 63).

Variation in the Reichert-Wollny Number of Butter-Fat.

The proportion of volatile acids present (as glycerides) in butter-fat is not constant, Reichert-Wollny numbers as low as 18 and as high as 36 being met with. These extremes occur very rarely, however, and on the basis of the evidence placed before them the Butter Regulations Committee, with few dissentients, recommended the official adoption of the Reichert-Wollny number 24 as the "limit" below which the presumption of adulteration with foreign fat should be raised.

This recommendation has not been adopted by the Board of Agriculture, but it is nevertheless of interest to bear it in mind in connection with the following discussion of the Garforth and other data.

The extreme Reichert-Wollny numbers brought to the notice of the Butter Regulations Committee were 18·4 and 35·6.

The extremes found in the Garforth (1904-6) samples (Table VIII., pp. 71-73) were 21·2 and 34·3, whilst the extremes in the case of the earlier Garforth samples prepared for the 1901-1902 inquiry were 19·4 and 28·9.

It is of greater interest, however, to ascertain the extent to which the Reichert-Wollny numbers are evenly or otherwise dis-

tributed between these extremes. The following table (Table VI.) gives information on this point:—

TABLE VI.—FREQUENCY OF OCCURRENCE OF DIFFERENT REICHERT-WOLLNY NUMBERS.

REICHERT-WOLLNY NUMBER.	GARFORTH, 1904-6.	1901-2 INQUIRY.			ALL SAMPLES.	
		English.	Scottish	Irish.	Total Number.	Percentage of total.
		Number of Samples.				
Below 21 . . .	..	2	...	1	3	0.8
21-21.9 . . .	6	1	...	1	5	1.7
22-22.9 . . .	4	4	2	1	11	2.4
23-23.9 . . .	6	9	4	4	23	5.0
24-24.9 . . .	13	6	2	5	26	5.6
25-25.9 . . .	18	12	9	5	44	9.4
26-26.9 . . .	17	11	13	12	53	11.4
27-27.9 . . .	9	20	13	16	56	12.5
28-28.9 . . .	11	31	18	23	83	17.7
29-29.9 . . .	10	20	20	10	60	12.9
30-30.9 . . .	11	12	16	10	49	10.5
31-32 . . .	17	3	10	3	33	7.1
Above 32 . . .	4	...	8	2	14	3.0
Average Reichert- Wollny Number	27.3	27.3	28.6	27.8	27.7	

It will be noted that of the 465 samples tabulated, 45 (= 9.9 per cent) gave Reichert-Wollny numbers below 24. In other words, in the ordinary course of analysis, using the standard suggested, the presumption of adulteration would have been raised in the case of practically 10 per cent of these samples of genuine butter.

The proportion is slightly higher in the case of the Garforth 1904-6 samples, of which 16 (= 12.7 per cent) fell below the "limit." Of the 20 samples from Garforth, included in the 1901-2 inquiry, no fewer than 9 fell below the limit, 2 samples being, indeed, exceptionally low (19.9, 19.4). These samples were, however, prepared from the milk of two small groups of cows (six and three cows respectively), and the more comprehensive data furnished by the later samples indicate that, taking the whole year round, the mixed butter-fat of the whole herd on this farm is probably little, if at all, below the average for the rest of the country in its content of volatile acids. There is no reason to believe that the range of variation is greater there than in the case of other herds of similar size and under similar conditions of treatment.

On referring again to Table VI. it will be noted that more than 96 per cent of the samples fell between the limits (Reichert-Wollny numbers) of 21 and 32, and that more than 80 per cent

fell between the limits of 25 and 32—the average Reichert-Wollny number of all the samples being 27·7.

It remains to examine the causes of this variation in the proportion of volatile acids present (as glycerides) in butter-fat, and the extent to which they can be brought under control. These points have been the subject of a very large amount of investigation in recent years at various centres, notably in the butter-producing countries of the Continent and in America, and it is now possible to state what are most probably the chief causes of variation. These are dealt with in the ensuing sections, and illustrated as far as possible by means of the Garforth and other data under review.

The changes in the content of volatile acids are accompanied by other changes in the physical and chemical characteristics of the butter—*e.g.*, colour, hardness, taste, &c.—but the consideration of these lies beyond the scope of the present communication.

*Causes of Variation in the Proportion of Volatile Acids
present (as Glycerides) in Butter-Fat.*

The chief causes of variation in the composition of butter-fat are—

1. The individuality of the animal.
2. The period of lactation.
3. The character of the food.
4. The climatic and other conditions that may affect the comfort of the animal.

The two former causes are, of course, permanently operative, whilst variations due to the two latter are more transient and irregular. These and other factors may act simultaneously, so that it is obviously impossible to say with certainty to what cause or causes the variation observed in any particular case is due. It must be understood, therefore, that in the subsequent references to the Garforth and other data the actual causes of the variations to which attention is drawn must be to some extent matters of conjecture, and the conclusions expressed must be regarded more as probabilities than as statements of proven fact.

Influence of the Individuality of the Animal.

The Garforth data afford no evidence on this point, but observations made elsewhere indicate very considerable differences in the proportion of volatile acids present in the milk-fat yielded by different cows of similar breed, age, stage of lactation, and in other ways strictly comparable.

These differences are, however, only likely to lead to practical difficulties in the case of very small herds (cp. p. 63), where the presence of an animal yielding butter-fat abnormally poor in volatile acids may cause even the mixed butter-fat of the herd to be unusually deficient in this respect.

The greater the number of animals kept, the more safely may this factor be ignored in dealing with the mixed produce of the herd.

Influence of Period of Lactation.

The advance of lactation is accompanied by changes not only in the amount but also in the *composition* of the milk-fat secreted, notably in the proportion of glycerides of volatile acids.

The influence of the individuality of the animal is nowhere more strikingly exercised than in the changes accompanying the advance of lactation, and hence no hard-and-fast rules can be drawn up for these. It appears to be the general rule, however, that the milk-fat secreted in the first few days after calving is poor in volatile acids, but improves very rapidly in this respect during the first month or two, this improvement being then steadily maintained until about the beginning of the last month or two of lactation, when the proportion of volatile acids commences to fall off rapidly.

The Garforth data afford only indirect evidence on this point, since they refer to the mixed butter-fat of the milk from 15-20 cows kept under variable conditions. They furnish, however, strong confirmatory evidence of the general truth of the above statement. Thus it is noticeable that in each of the three years the Reichert-Wollny number was highest during or immediately after the period in which most of the cows calved, and lowest immediately prior to this. Thus the striking rise, noted in February 1906 as compared with January, was undoubtedly due to the inclusion in the herd of three newly-calven cows. The monthly averages of the Garforth samples seem to indicate a steady fall in the Reichert-Wollny number with advance of lactation (see Table VII., p. 66).

It must be borne in mind, however, that the cows were subject to other changes besides advance of lactation. For example, in each year during the months of May to October they were at pasture day and night, receiving in addition a light ration of concentrated food, whilst during the rest of the year they were housed, and received principally hay, straw, and concentrated foods. These differences would undoubtedly have an effect on the composition of the butter-fat (see pp. 67-70).

The changes in the Reichert-Wollny numbers follow the sequence of the months so closely, however,—the highest values being recorded in the months of frequent calving, the lowest

values in the months immediately preceding these,—that it is difficult to resist the conclusion that the advance of lactation was the principal factor affecting the proportion of volatile acids in the butter-fat.

TABLE VII.—MONTHLY AVERAGE REICHERT-WOLLNY NUMBERS OF THE (TARIFF) 1904-6) SAMPLES.

	1904	1905.	1906.
January		25.1	22.4
February		26.0	27.9
March	31.6	28.0	27.9
April	30.8	28.2	29.1
May	30.8	31.6	29.8
June		30.7	29.3
July	24.3 ^a	27.1	...
August	26.4 ^a	27.3	...
September	25.9	25.0	...
October	25.5	24.6	...
November	25.3	21.8	...
December	24.2	22.1	...

^a One sample only.

The data obtained in the 1901-2 inquiry do not afford much conclusive evidence as to the influence of advance of lactation on the composition of the butter-fat; but Prof. Thorpe, in his report (Minutes of Evidence to Final Report, Appendix XXIX., p. 506), concludes from the data that apparently "change of food and other conditions of living produce a greater variation in the composition of butter in the case of cows which are late in their lactation-periods than in the case of cows which are in full milk or nearly so."

In view, therefore, of these facts it is obvious that the butter obtained from a herd of cows, most of which are "drying-off" at the same time, is liable at this time to contain so low a proportion of volatile acids as to lead the analyst into whose hands it may come, and who is not informed as to the stage of lactation of the cows, to suspect that the low proportion is due to deliberate mixing of other fat with the butter-fat.

If, however, the number of cows drying-off at any one time is only a small proportion of the herd, the proportion of volatile acids in the mixed butter of the whole herd will—other conditions being favourable—remain fairly steady throughout the year. Prof. Thorpe gives actual instances of the greater uniformity in the chemical composition of butter produced on farms where cows when nearly dry are systematically turned out of the herds and replaced by newly-calven cows, as compared with the butter produced on other farms under con-

ditions in every way similar, except that attention is not paid to this "weeding-out process."

A strict regulation of times of calving is, of course, impossible in practice. It is only natural that most cows should be late milking in the autumn, since the spring months, when fresh food is abundant and the weather mild, form the most convenient and economical calving-time. Clearly, however, if butter is to be produced with such a proportion of volatile acids as will satisfy the analyst, then attention to the distribution of the calving of the cows over the year would certainly be a step towards securing this end.

Influence of Conditions affecting the Comfort of the Animal.

It has long been known that the composition of butter-fat varies with the condition of the cows.

In general, conditions tending to cause discomfort will lower the proportion of volatile acids in the butter-fat, the lowering being most marked in the case of cows well advanced in lactation.

The variations due to causes of this nature are, however, extremely irregular and not always in the same direction, being, of course, largely dependent upon the nervous temperament of the cow.

The variation has been most closely studied in connection with fluctuations of climate, and it seems to be very frequently, if not usually, the case that if the cows are subjected to *extremes of heat or cold* the proportion of volatile acids in the milk-fat decreases. This has been put forward as an explanation of the general poorness in volatile acid of butters from Siberia and other cold climates, and also for the low values frequently obtained in autumn with butters from warmer countries where it is the common practice to leave cows out at pasture very late in the year. It is, indeed, in the autumn months that the low numbers are, in general, most frequently met with.

The Garforth data (1904-6) lend no support to this view, the fall in the Reichert-Wollny number being unchecked by the housing of the cows in the autumn. Nor do the data obtained in the 1901-2 inquiry show any definite general connection between climate and composition of the butter-fat, butters coming from the extreme north of Scotland comparing very favourably with those from various parts of England and Ireland.

It is significant, however, that the greatest range of variation was found in butters coming from those parts of the kingdom where the climatic changes are most pronounced.

Moreover, both in the 1901-2 samples and in the later Garforth samples, individual cases of low Reichert-Wollny numbers are noticeable, in which the depressing factor is almost certainly discomfort of the cows arising from unseasonable weather. Thus, the only sample of butter taken at Garforth during July 1904 (No. 24, Table VIII.) was prepared from milk secreted during a day of pouring rain, and gave a Reichert-Wollny number of 24.3.

Further, in the case of the two groups of cows at Garforth, from whose milk samples of butter were prepared for the 1901-2 inquiry, the housing in the autumn resulted in each case in a substantial increase in the proportion of volatile acids. This is by no means exceptional, nor can the increase in many cases be attributed to change of diet. Numerous instances have been noted where the improvement was almost certainly due to increased comfort of the animal.

Obviously then, although the protection of the cattle from inclement weather may not in every case appreciably check the falling-off in the proportion of volatile acids, there is abundant evidence that it very frequently does so, especially where the housing is accompanied by a liberal improvement in diet.

It is further probable that attention to other conditions affecting the comfort of the cows—*e.g.*, *efficient ventilation of byres, regularity in milking, avoidance of disturbance, &c.*—will tend to minimise the falling-off in the proportion of volatile acids with advance of lactation.

Influence of Food.

No point has been more extensively studied in connection with butter-making than the influence of the food of the cow on the nature of the fat contained in her milk. This is especially the case in so far as the influence of the fat in the food on the butter-fat is concerned—a matter of great importance, owing to the great part played by oil-cake in the feeding of the dairy-cow at the present day.

It has long been known that the quality of butter can be very greatly affected by the food of the cow—*e.g.*, the softening and colour-producing effect of pasture, and the hardening and bleaching effect of decorticated cotton-cake. The influence of food on the churnability and general quality of the butter was, for instance, well demonstrated by the experiments of Mr Speir in 1895-97 ('Transactions,' 5th Ser., vols. viii. and ix., 1896, 1897).

Similar observations as to the influence of food have been made, from time to time, in connection with the Garforth samples, although the range of foods used on the farm during

the period of the sampling was so limited that the data throw little light upon this subject.

The aspect of the question which has been most widely investigated during recent years is, however, the possibility, or otherwise, of the butter-fat being so seriously affected in composition by the food as to give rise to suspicions as to its genuineness when placed on the market. A very large number of data have been accumulated, and the conclusions based upon them are very conflicting, probably owing to the difficulty previously referred to of dissociating the effects produced by the food from those due to other factors, which would differ widely in different experiments.

It is impossible within the limits of this paper to touch upon all the different respects in which the composition of the butter-fat is affected by the nature of the food, and the following remarks on this subject are confined exclusively to the variations in the proportion of volatile acids.

The experimental evidence is, as above stated, conflicting, but there is general agreement that the changes in the Reichert-Wollny number due to food are as a rule relatively small, a rise or fall of more than two or three units being quite exceptional, especially in the case of concentrated foods. The amount and nature of the green food seem to exert the greatest influence in this respect. In the earlier stages of the grazing season, when the grasses are young and succulent, the proportion of volatile acids is usually well maintained; whereas during the later part of the season, when the autumn grass forms the main food of the cows, the Reichert-Wollny number tends to decrease. The Garforth data support this view, the Reichert-Wollny number being well maintained into July, but it is of course impossible to say to what extent the pasturage contributes to this.

The effect of oil-cakes and similar foods on the Reichert-Wollny number varies with their nature and the nature of the ration of which they form a part. In general, they produce the greatest change when fed alone and in considerable quantities, decorticated cotton-cake usually causing a slight rise, linseed-cake a fall, in the Reichert-Wollny number. When fed along with hay and cereal meals, however, their effect on the proportion of volatile acids in the butter is very slight. In view, however, of the more pronounced effects in other ways of these foods on the quality of butter, and especially of the possibility—demonstrated in some cases (*e.g.*, cotton-cake¹)—of some ingredients of the food-fat passing more or less directly into the milk-fat, it is not advisable to give oil-cakes very liberally to cows whose milk is to be used for butter-making.

¹ *Vide* Thorpe, Analyst (1898), xxiii. 255.

A daily allowance of 4 lb. per head may be suggested as a reasonable working maximum, the further requirements being met by a mixed ration of common farm foods.

Another inference which the investigations of recent years have rendered increasingly probable is that the volatile acids of the milk-fat are derived to a considerable extent from the similar acids generated in the digestive tract by bacterial fermentation of the easily soluble carbohydrates—notably, therefore, the sugar—of the food.

If this be true, it is to be expected that the supply of sugar in the food—*e.g.*, as molasses, bulbs or leaves of root-crops, &c.—will tend to increase the proportion of volatile acids in the milk-fat. Evidence that this is possible is rapidly accumulating—*e.g.*, Sjollem (‘Proc. Roy. Acad. Amsterdam,’ 1902, iv. 746) found that a very considerable increase in the proportion of volatile acids could be effected by giving the leaves and roots of sugar-beets and mangels to cows, although molasses was not so effective. It may be that the effect is not due solely to the sugar, but to the conjoint action of the sugar and other easily fermentable matters in the roots.

It is thus possible that where other, practically unavoidable, conditions tend to depress the proportion of volatile acids, the falling-off may be checked to some extent by increasing the amount of easily digestible carbohydrates—sugar for preference, especially in the form of “roots”—in the diet, in so far as practical considerations admit of this being done. This remedy is, however, open to the objection that sugar-feeding may lead to undue softness and undesirable flavour in the butter (*vide* Speir, ‘Transactions,’ 5th Ser., vol. ix., 1897).

Relation between Quality of Butter and Chemical Composition of Butter-Fat.

The facts discussed in the foregoing pages show clearly that the maintenance of a high proportion of volatile acids in butter may be a task of no little difficulty even to the farmer who is cognisant of all the measures that are likely to lead to that end.

The farmer is therefore perfectly justified in demanding proof that the proportion of volatile acids in a sample of butter is closely related to its quality as appraised in the market—an assumption that is tacitly made by the chemist. Is butter that contains a low proportion of volatile acids necessarily poor butter?

The information available on this point is as yet so meagre and unsatisfactory that it is impossible to give a definite answer to the question. Such data as are available give little

evidence of any close connection between the quality of butter and the proportion of volatile acids present in it.¹

At present it is difficult to see what incentive, apart from the desire to avoid legal troubles, the farmer has to increase his outlay in efforts to produce butter rich in volatile acids. So long, however, as the verdict as to the purity of butter is based upon its quantitative composition, so long will the cautious farmer be obliged to endeavour to secure the production of butter-fat well up to the average in composition, and to him the suggestions made in the foregoing pages, it is hoped, may be of use.

TABLE VIII.

PARTICULARS OF SAMPLES OF BUTTER PREPARED FROM CREAM PRODUCED AT THE MANOR FARM, GARFORTH (MARCH 1904-JUNE 1906)

Sample No	Date of Churning	Water	Fat	Cond	Salt	Butcher's Weighing Number	REMARKS	Dates on which cows calved
1	1904 March 8	10.5	°	°	°	31.1		1904.
2	" 10	11.5				31.3		Jan. 10
3	" 15	11.4				32.0		" 10
4	" 17	11.5				31.9		March 1
5	" 22	11.4				31.7		" 9
6	" 24	11.7				31.8		" 20
7	" 29	11.5				31.7		
8	" 31	11.0				31.0		
9	April 5	12.0				30.7		April 3
10	" 7	11.6				30.5		" 4
11	" 12	11.6				29.7		" 7
12	" 15	11.4				32.1		" 14
13	" 19	11.0				32.0		" 17
14	" 22	10.2				31.0		
15	" 26	14.6				30.8		
16	" 28	10.2				30.3		" 29
17	May 3	12.6				30.5		May 2
18	" 5	11.3				29.5		" 20
19	" 10	12.0				31.8		
20	" 13	13.0				30.6	May 13. Cows out at pasture day and night from this date.	
21	" 18	10.0				30.6		
22	" 19	11.5				31.3		June 15
23	" 25	9.5				31.6		" 18
24	July 25	11.3	87.1	.6	.9	24.3		July 20
25	Aug. 23	12.5	86.8	.4	.2	26.4		
26	Sept. 1	10.4	88.3	.7	.5	26.3		
27	" 1	9.4	89.4	.4	.7	26.7		
28	" 16	10.4	88.6	.4	.6	25.7		
29	" 21	11.6	87.0	.4	.8	23.1		
30	" 23			.5	.1	25.9		
31	" 28	10.9	87.7	.8	.9	26.9		
32	" 29	13.0	85.4	1.5	.1	26.4		

¹ Vide Faber, Minutes of Evidence to Final Report of Departmental Committee of 1901 on Butter Regulations, Appendix XXVI., p. 493.

THE CHEMICAL COMPOSITION OF BUTTER.

TABLE VIII.—PARTICULARS OF SAMPLES OF BUTTER—*continued.*

	Date of Churning.	Milk.	Fat.	Wm.	Salt.	Revised Wm. Number	REMARKS.	Dates on which cows calved.
	1904.							
33	Oct.	4	10.9	87.1	.5	1.3	26.3	
34	"	7	11.6	85.2	2.2	.9	28.0	Oct. 14. Cows housed
35	"	12	13.4	85.0	1.3	.2	26.1	during night from
36	"	14	12.4	84.9	.5	1.5	25.6	this date.
37	"	17	9.9	83.5	.5	1.0	24.5	Diaphragm churn.
38	"	20	11.3	86.4	1.0	1.2	25.7	Fishback churn.
39	"	23	13.0	85.5	.3	1.0	25.0	Diaphragm churn. Dry salted.
40	"	27	10.9	87.2	1.0	.8	25.7	Diaphragm churn.
41	"	31	10.9	88.5	.3	.2	24.5	Diaphragm churn.
42	Nov.	3	12.9	86.0			25.6	Fishback churn.
43	"	7	11.9	87.3	.6	.15	25.5	
44	"	10	10.7	87.1	1.6	.5	26.5	Diaphragm churn.
45	"	16	11.3	87.0	1.0	.7	25.2	Dry salted.
46	"	17	12.2	86.2	.6	.9	25.5	Dry salted.
47	"	29	11.3	87.3	1.0	.35	24.6	Fishback churn.
48	"	29	10.3	88.5	.8	.3	23.9	Fishback churn.
49	Dec.	6	10.1	88.2	1.0		24.6	
50	"	6	10.3	87.9	1.2	.5	23.9	
51	"	13	11.8	86.5	.7	.9	24.3	Fishback churn.
52	"	28	9.3	...	...	...	24.1	
	1905.							
53	Jan.	4	...	...	...		24.6	
54	"	13	...	...	...		25.1	1905. Jan. 4
	"	20	11.8	...	...		25.5	
56	"	23	11.4	...	...		25.0	
57	"	31	11.5	86.7	.9		25.2	" 31
	Feb.	14	13.2	84.4	1.5	.8	26.3	Feb. 13
59	"	13	13.7	84.3	.6	1.3	26.2	
60	"	25	13.7	84.3	1.5	.4	25.6	" 23
61	March	20	10.5	86.8	1.6	1.0	29.5	March 3
62	"	22	10.6	86.4		1.7	26.5	" 15
63	April	1	11.3	86.3		1.2	29.6	" 15
64	"	7	11.5	86.2		.5	27.1	
65	"	15	14.8	84.0	.8	.3	28.3	Fishback churn.
66	"	22	10.7	86.6	1.7	.9	27.8	Fishback churn.
67	"	29	12.2	86.5	.7		28.2	Dry salted.
68	May	5	11.9	86.3	.9		27.5	May 4. Cows at pas-
69	"	9	11.1	86.4	1.2		32.0	ture day and night
70	"	16	11.9	86.1	1.2	.7	32.4	from this date. May
71	"	23	11.7	87.3	.4	.5	31.9	
	"	29	11.6	87.1	1.0	.9	34.3	Dry salted.
73	June	5	12.0	86.7	.3	.95	31.8	
74	"	13	9.8	89.2	.3	.65	31.4	
75	"	20	11.6	87.3	.3	.7	30.3	
76	"	23	13.8	84.2	.2	1.7	29.2	
77	July	5	11.5	87.5	.4	.55	27.6	
78	"	12	12.4	86.6	.5	.45	27.0	
79	"	21	11.6				27.1	
80	"	25	10.2				26.4	
81	"	31	11.9	...	...	...	27.2	July 22
82	Aug.	8	11.4	...	...	...	27.1	" 26
83	"	15	11.0	...	...	...	28.2	
84	"	22	10.3	...	...	.9	27.4	Dry salted.
85	"	28	...	...	...		26.6	
86	Sept.	6	11.5	...	...	.7	26.4	
87	"	13	11.4	...	...	.6	24.7	

TABLE VIII.—PARTICULARS OF SAMPLES OF BUTTER—*continued*.

Sample No.	Date of Churning.	Water.	Fat.	Churn.	Salt.	Reckman's Wollny Number.	REMARKS.	Date, on which cows calved.
	1905.	%	%	%	%			1905.
88	Sept. 20	11.9	...	...	6	24.3		
89	" 26	11.7	...	...	6	24.7		Sept. 26
90	Oct. 2	11.7	...	...	8	25.0		
91	" 9	...	...	...	7	25.5		
92	" 16	11.3	...	...	5	24.4		
93	" 24	12.4	...	...	...	24.5		
94	" 30	12.4	...	...	5	23.8		
95	Nov. 7	11.2	...	...	6	22.2	Dry salted.	
96	" 17	10.2	...	...	1.6	22.3	Nov. 1. Cows housed from this date.	
97	" 20	12.5	...	...	8	21.2		
98	" 27	9.9	...	...	9	21.5		
99	Dec. 8	...	...	...	9	21.5		
100	" 12	...	...	...	5	22.5		
101	" 19	13.3	...	...	2.5	21.3		
102	" 29	11.6	...	...	8	23.3		
	1906.							1906.
103	Jan. 5	12.6	...	...	1.6	21.6		
104	" 11	11.2	...	...	9	22.8		
105	" 23	13.3	...	...	1.2	21.6		Jan. 22
106	" 30	12.9	...	...	...	23.5		" 22
107	Feb. 6	11.9	...	...	7	30.0		Feb. 1
108	" 13	11.3	...	...	7	28.7		" 13
109	" 19	12.9	...	...	6	26.6		" 26
110	" 27	11.8	...	...	7	26.2		
111	March 5	12.8	...	...	4	23.4	Dry salted.	
112	" 15	10.9	...	...	...	25.9		
113	" 27	13.7	...	...	...	28.3		March 27
114	" 30	11.1	...	...	...	28.3		" 29
115	April 6	13.4	...	...	...	29.0	Dry salted.	" 29
116	" 13	13.5	...	...	...	29.6		" 30
117	" 20	12.1	...	...	6	28.6		April 15
118	" 27	12.6	...	...	1.05	29.0		
119	May 1	12.6	...	...	5	30.0		
120	" 8	12.6	...	...	1.2	28.8	Dry salted.	
121	" 19	12.4	...	...	8	32.2	May 12. Cows at pasture day and night from this date.	
122	" 25	13.5	...	...	1.7	28.1	Dry salted.	
123	" 31	13.7	...	...	...	30.0		
124	June 8	13.0	...	...	6	29.1		June 1
125	" 12	11.5	...	...	7	29.2		
126	" 19	11.1	...	...	7	29.6		
Minimum . .	9.3	84.0	.2	.1	21.2			
Maximum . .	14.8	89.4	2.2	2.5	34.3			
MEAN . . .	11.7	86.7	.8	.8	27.3			

The analyses of Nos. 1-23 were carried out by Mr W. Bywater, B.Sc., and of Nos. 45-50, 57 by Mr R. G. White, B.Sc., both at the time senior students in the Department of Agriculture of the University of Leeds.

EXPERIMENTS IN CROSSING POTATOES.

By JOHN H. WILSON, D.Sc., F.R.S.E., Lecturer in Agriculture and Rural Economy in the University of St Andrews.

THE potato has been made the subject of a great deal of experimentation. This has been due to the desire on the part of many to improve, or at least maintain, the quality and quantity of the starch-bearing tubers, which form one of the chief food-stuffs of the world.

The literature of the experimental work has naturally attained large and unwieldy dimensions. It is not my inten-

tion, however, to attempt to unravel the question of the origin of our cultivated potatoes, or to dwell on the labours of those who have raised and selected varieties, but simply to give some account of experiments and observations made during the past few years in my own plots at St Andrews. The present paper deals only with the first series of my experiments.



FIG. 41.—A villory tuber-development, caused by the early removal of a number of underground tubers.

The Tuber of the Potato.

The botanical term "tuber" is applied to a considerable variety of swollen bodies acting as repositories of reserve substances. The potato tuber is a structure formed for the purpose of storing up starch, which is primarily produced in the leaves of the plant. It is a modified terminal portion of a branch which is developed underground. It is easy to demonstrate that

the tuber is a branch and not a root structure, for if the tubers be removed as they are formed, the plant finds means

of storing the starch reserves in swollen branches, produced, as ordinary branches are, in the axils of the leaves above-ground (fig. 41). These aerial tubers are necessarily different in detail from the normal underground ones, being leafy, branched, very green, and comparatively small. The ordinary tubers, if exposed for a short time to the light, will, as is very well known, become green. The development of chlorophyll is detrimental to the flavour of the cooked tuber.

The tuber, then, is a portion of a shoot formed of a considerable number of shortened joints, each joint being indicated by an eye, and having a close-set series of buds at the apex or rose end. The entire plant dies, with the exception of the tubers, which are left lying in position where they grew. When spring comes round, growth is resumed, and an effort is made, on the strength of the reserves, to send shoots in the first place into the air to tap the great source of energy—sunlight (fig. 42). It will be seen that no new plant has been produced: all that has happened is that the original plant has spread by a purely vegetative process. One plant, if worthy enough, could thus be spread over the world.

To facilitate propagation, it is customary to cut the tubers into pieces, thereby establishing a number of plants in place of one. In nature this does not take place. It is interesting, however, to observe that when the tuber is cut, a skin is soon formed over the exposed flesh, so that severed portions are almost as effectively protected as the whole was. Further, in cultivation, when the struggle for existence is no longer operative, the tubers grow to a great size, and may well be cut into pieces, each with a sufficiency of starch to give the new plant the best chance of establishing itself as a tuber-bearer. Here, as in other cultural operations, the factors to be taken into account are not all easily discernible, and it is sometimes difficult to decide what size of tuber, or portion of tuber, is the most profitable to plant.

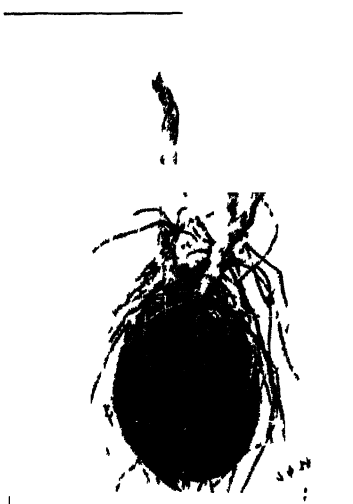


Fig. 42.—*Mature tuber sprouting.*

So long as there is a healthy bud, a plant can be secured. If the bud is borne on a considerable piece of the tuber, the plant will succeed, although grown all along in the open; but if the piece is very small, pot culture may be necessary. With protection and a little heat under glass, cuttings can be struck, and these will produce tubers before long.

Deterioration of Varieties.

Much discussion has arisen as to the deterioration of the cultivated varieties of potatoes. From one cause or another, degeneration reduces the value, or even leads to the entire abandonment, of the majority of varieties in the course of a decade or two, and it is this circumstance that incites raisers to secure regenerated or new stock. I am not aware that any satisfactory explanation has been given of the actual causes of deterioration. The problems involved are by no means simple. Cases are known where one variety has been grown for many years without showing signs of deterioration. I have been told of a case where a variety was grown for over fifty years in the same garden in St Andrews, and was at the end of that period still presentable. The occult factor of "change of seed" stands in need of further elucidation before it can be cited as a certain means of upholding the vigour of a stock.

Over-propagation, either by dividing the tubers into small pieces or multiplying by layers or cuttings, is often mentioned as a sure method of bringing about weakening of the stock; but it is hard to see how any permanent ill effects can be produced in this way. We do not hear for certain of deterioration in garden plants such as the *Pelargonium* and the *Calceolaria* propagated continuously by cuttings, or in the *Streptocarpus* or the *Begonia* increased from portions of the leaves. One would expect that, given suitable conditions, the stock lessened in vigour temporarily by forcing would in a year or two regain the normal standard.

Under a different category come diseases due to specific organisms; but here, too, we meet with abstruse difficulties. No one has suggested that a mild attack of any potato disease has tended to render the subsequent crop immune to that disease. The general belief is that the stock affected by disease goes from bad to worse.

Is it quite clear how the too familiar disease due to the fungus parasite *Phytophthora infestans* is perpetuated? The suggestion made comparatively recently that the spores produced by diseased tubers left half exposed in the ground are a fruitful source of infection is interesting. The theory that bits of living mycelium are present in the diseased tubers, and that

such threads resume growth and find their way into the growing buds, is not easy to substantiate. In any case, it should often happen that tubers absolutely free from disease germs and threads can be grown, and the pristine vigour of the variety be thus maintained. If this is so, it is conceivable that many of our old standard varieties which happen to have been sent abroad may still be cultivated in different parts of the world. If they have gone out of cultivation, it is because no special effort has been made to save them.

Selection of clean healthy tubers for planting is certainly a matter of great importance, but it is a mistake to suppose that a variety constitutionally weak will be brought to have better stamina by this simple expedient. One hears rumours that a good many alleged new kinds recently put on the market are merely selections from some well-known accredited variety or other. In some cases this may readily be so, the sender-out having been fortunate enough to get hold of a specially healthy specimen to originate his selected stock. Where selection only has been made, it is but fair that public acknowledgment of the source should be given.

The Sporting of the Potato.

Another vexed question is that of sporting. There is a widely current belief that many of our new varieties have originated suddenly as vegetative variants from the type. Sporting is by no means an unusual phenomenon; and it has been recently elevated to a position of higher consequence by Professor de Vries of Amsterdam, who has given the title *mutation* to a phenomenon corresponding to a sport. Neither sport nor mutation is a self-explanatory term. In some instances variation, indistinguishable at first sight from sporting, is traceable to the effects of crossing; but usually the term sport is retained for a spontaneous production for which there are no present means of accounting.

No sports have appeared in my experiments, nor have I personally ever met with any genuine case of sporting in the potato. Records given by Darwin and others show that sporting does occur. Doubtless many so-called sports are simply temporary variations due to some unusual condition of the soil or season. It is no uncommon thing to find tubers at one plant showing minor differences—one tuber being round and another oval, or one smooth and another netted. In the case of second growth, the differences between the first and later tubers are often well marked in the matter of form, size, and colour; but it is obvious, of course, that the disparity in age explains the diversity.

A common cause of error is the presence of tubers of one kind left in the ground to be planted up later with another. During the first summer of my experiments I found what looked like a purple-flowered sport in a line of white-flowered seedlings. The discovery of the same purple-flowered variety in more places than one settled the matter. By some accident it was there as a "rogue." It is likely that the great majority of cases of supposed sports have simply been due to mixture of the tubers planted or the introduction otherwise of rogues.

Experiments in Grafting.

A method of inducing variation, or of actual crossing, by grafting has often been tried. This is usually done by bisecting tubers of two kinds and putting the halves of the unlike kinds together. I have tried a variety of grafting experiments as follows: by halving lengthwise matured tubers, by joining the same with young growing ones, by inserting the bud of one kind into the tuber of another, by inarching the aerial stems, and by striking inarched cuttings,—but I have not by any of these means succeeded in getting variation or crossing. Examples of the scion affecting the stock are known amongst other garden plants, and graft-hybridisation is not an impossibility; but it seems absurd to expect anything to come of putting the cut faces of fully-formed starch reservoirs together. To succeed, one would probably require to be fortunate enough to bring about the union of bisected buds. If the result corresponded to the well-known instance of Adam's Laburnum,¹ one would expect to find amongst the progeny individual plants with *three* kinds of flowers, foliage, and tubers, two resembling respectively those of the parents and the third resembling a blend of the parental characters.

The Fruiting of the Potato.

Many potatoes in normal conditions bear flowers and fruit with seed. The word "seed" has, through absurd confusion of ideas, come to be used when the tuber is meant. If "tuber" is too scientific a term, "set" should be used. Many cultivated potatoes bear no flowers, others flower profusely, and between those extremes all possible gradations in flower-producing power are found. Again, some that flower well bear no fruit,

¹ *Laburnum Cytisus Adami* is stated to have been the outcome of budding *Cytisus purpureus* on the Common Laburnum. Examples are to be seen in which the Laburnum bears in an erratic way mistletoe-like tufts of the shrubby purple-flowered *C. purpureus* and branches with reddish flowers which are obviously hybrid.

some fruit moderately and a few heavily. The fruit is usually designated an "apple" or a "plum." It is botanically a berry, and it might as well be called so. It may be taken as certain that the chief cause of failure to fruit is the scarcity or inferiority of the pollen. Many varieties can be made to fruit by using the pollen of other varieties to fertilise them. A noteworthy instance of this is Up-to-Date, which is seriously lacking in pollen, but which has, nevertheless, been successfully pollinated from other varieties by a good many experimenters. I have crossed it with a number of other varieties.

One hears it often stated that to carry fruit lessens the tuber-bearing capacity of the plant. This remains to be proved. The difference in the crop of tubers would not amount to much although the berries were to be prevented from developing in a variety which fruited freely. It is by no means the case that to have great croppers we must select non-fruited varieties. The best tuber-bearer of the first batch of seedlings I raised was also the bearer of the heaviest crop of fruit. The famous variety, the Victoria, raised by the late Mr William Paterson, must have borne fruit very freely. Mr George D. Paterson sent me lately a very considerable quantity of fine-looking seed which had been saved by the raiser. It had, however, quite lost its vitality, having been kept in a dry case for many years. Fruit-bearing may well be taken as a sign of constitutional vigour.

There is a complication, of course, arising from the presence of tubers as a natural means of perpetuation of the plant in default of seed. It is not easy to assign a reason for the evolution of tubers in a few members of the genus *Solanum* inhabiting South America, while they are absent from others there and elsewhere. Various suggestions might be made, such as the greater difficulty seedlings would have in withstanding the vicissitudes of climate and environment. In continuous cultivation no such difficulty has been presented to the plant; yet we are told that in the memory of man cultivated potatoes have become far less fruitful than they were formerly. The seeds one gathers are usually of good vitality, and the seedlings on the whole about as healthy as weeds. It may be found to be the case that it is largely a matter of chance that the varieties at present in cultivation are not marked fruit-bearers. Perhaps the fashion of discarding all varieties that have coloured tubers, however commendable they may otherwise be, may have something to do with the matter. In any large collection of varieties it is usual to find a good deal of fruit if the summer is a propitious one. In a dull, sunless season berries are scarce.

Insects are not required to bring about the pollination of

the potato-flower. It is possible that in other countries insects may be attracted to the flowers. On very few occasions have I noticed—as Darwin also did—humble-bees visiting the flowers, and only when the weather was waim. There seemed to be little to induce the insects to cling to the flowers, the calls being brief. It does not appear that the visits would materially help the setting of fruit or bring about cross-pollination. The minute insect, Thrips, can be seen at work on the flowers, and it may be instrumental at times in carrying pollen from the anthers to the stigma of the same flower. The structure of the flower, however, points to self-fertilisation being the rule, the pollen, when present, being shaken out of the anthers on to the stigma. Sometimes the stigma does not project beyond the anthers, but that is an exceptional condition.

The potatoes we now cultivate may be regarded as all seedlings with a complex pedigree. We cannot expect to find them behaving as genuine wildings would do. If we sow their seeds, the seedlings are not at all likely to be exact repeats of the parents. We naturally look for an assortment of varieties which do not reach the high level the parents have attained as garden or field plants. I once grew a small number of seedlings from a self-set fruit of what was no doubt Myatt's Kidney, and my recollection is that the seedlings were indistinguishable from the parent. This is quite a possible state of affairs, but most likely it is exceptional.

The Crossing of the Potato.

It is sometimes stated that it is of service to remove the tubers from the plants, so as to induce freer flower-bearing. I cannot say that I have found this practice do any good. Checking by potting, or planting out under glass, seems also unnecessary. Other experimenters may have hit on methods unknown to me, but I imagine that what the majority of these will do will simply be to go into the garden or field, find pollen, and apply it in the usual way. There seems to be very little room for mystery in the process. The golden rule for the hybridist is to try again if he has not succeeded. Many crosses that were long considered quite impracticable have been accomplished by persistent repetition.

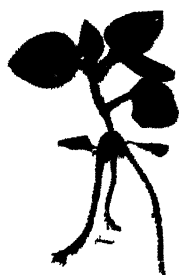
A precept of almost universal application in plant-breeding is, that one can never be at all sure what may be the outcome of an experiment. There are obvious general principles which will be found to operate in the way they have always done, but he is a bold man who undertakes to turn out a new variety to order, conform to schedule. The raiser of a new variety of potato sets before himself an ideal which, when analysed, is

found to consist in the harmonious blending of a large number of characters, involving many factors of a very subtle, evasive, and intangible nature. Hitherto advances have been made largely by the exercise of experience, common-sense, and intuition on the part of the breeder, but lately he has been put in possession of information which may assist him greatly. Mendel has shown that what are called characters or points are often transmitted intact, so to speak—that is to say, each character is represented in the germ by an elemental or unit body or substance, which is guaranteed to reproduce that character in the progeny whenever a fitting opportunity occurs. In some plants, evidently not in all, these ultimate structural entities are amenable to rules, and are unusually accommodating in the hands of the breeder. In certain plants they can be almost absolutely relied on to behave in a consistent way, and the appearance of the characters they reproduce in a certain stated proportion in the progeny of a cross is a sure guide to the fixity or otherwise of those characters. The fixing of a desirable character has hitherto been done in quite an arbitrary way, and the persistent appearance of “rogues” in certain families has been an unsolved problem; but where Mendel’s principle can be applied, the task of fixing can be taken up rationally, and the presence of unlooked-for varieties explained. It remains to be shown whether the potato conforms to Mendel’s law to such a degree as to render its application of practical value to the breeder.

Seedling Potatoes.

The flower soon shows signs if it is fertilised, and the fruit swells fairly rapidly. One has to be prepared for partial failures. Fruits, although small, may contain a few good seeds. The seeds can be sown broadcast in a pot or box, and the seedlings pricked out when quite young; or they can be sown singly, wide enough to save the pricking out. Seedlings sown in March, and grown on in a greenhouse, are ready to plant out in June.

It is interesting to see the early start the seedling makes as a tuber-bearer. The first branches are produced in the axils of the seed-leaves. They bend downwards, enter the soil, and swell at their tips into tubers (fig. 43). Branchlets arise on those branches, or new branches appear higher up, and perform the same geotropic movement. Some of the seedlings are in a hurry to produce tubers; others (fig. 44) are more deliberate, and although developing a relatively large leaf-surface, seem either to be manufacturing no starch or to be using up directly what is produced.



1. 2. 3.

Fig. 43.—Seedling potato, to show method of development of the first tubers: c, seedling.



Fig. 44.—Seedling potato, to illustrate diversity of tuber-producing power. c, seedling; d, first tuber-bearing branch.

The seedlings usually grow with great vigour, and many of them flower and a few fruit the first season. The heaviest weight of tubers I have had in a first-year's seedling is 6 lb. $\frac{1}{4}$ oz. No special means were taken to secure this crop. In several cases I have found the heaviest tuber of a first year's plant turn the scale at 1 lb., and the heaviest of all was 1 lb. 4 oz. Free selection can be made at the first lifting. Many people imagine that seedlings of the first year are immune from disease. That is certainly not the case: the attack of *Phytophthora infestans* in first-year's seedlings is in some instances very severe.

The earliest successful experiments I carried out in crossing potatoes were with the following varieties: British Queen \times Myatt's Kidney, Red variety (name unknown) \times Myatt's Kidney, and Maincrop \times Red variety. The last-named in each case was the pollen parent. A number of other crosses attempted did not succeed. The unnamed Red variety was sent from New Zealand as one of the varieties in much favour there. It is not a very shapely potato, but is a good cropper and disease-resister. It would doubtless be sent out from this country.

British Queen \times *Myatt's Kidney*.

British Queen is a mid-season variety, with robust, moderately tall haulms, and pure white flowers borne in profusion. Pollen is very scanty.

Myatt's Kidney is an early variety with short spreading haulms. The flowers are a washed-out mauve, numerous, and of good size. The pollen is plentiful. It is often found loaded with self-set berries of large size. As many as ten berries on a truss have been noted.



Fig. 45 — *Field of British Queen, in flower.*

The only fruits in a field of *British Queen* (fig. 45) were the four secured by crossing with *Myatt's Kidney*. They were comparatively small, and contained respectively 17, 44, 30, and 12 seeds. The seeds were sown as described above. At re-potting it was observed that some of the seedlings produced



Fig. 46.—a, *British Queen*; e, *Myatt's Kidney*; b, c, d, progeny.

tubers at a much earlier period than others. Very considerable diversity in form and character of leaf and in length and duration of haulm was observable. The power of resisting

disease varied very considerably. When lifted it was found that there was great difference in tuber-bearing power, and the character of the tubers varied very much. In some plants the tubers were borne close to the base of the haulm, and were then easily lifted in a mass. In the other extreme there was

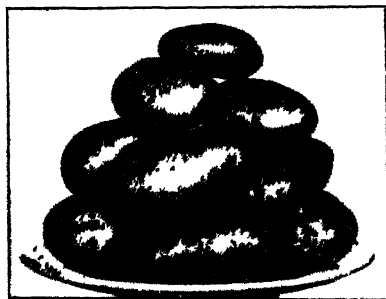


Fig. 47.—*Kate Kennedy* (*British Queen* × *Myatt's Kidney*).

little else present than a large mat of delicate root-like branches (stolons), with at best very small tubers. A third lot showed a fair crop, but the tubers were borne at the ends of long rambling branches, often so far from the base of the haulms as to be mixed with the tubers of neighbouring plants.

A few of the plants bore tubers resembling those of the parents; the rest differed in one way or another (fig. 46). Sometimes very peculiar forms occurred. One plant, for instance, bore tubers characterised by being very long and narrow, cylindrical, with very deep eyes (fig. 46, c), and not unlike the variety called the Fir Cone. Another bore long curved tubers, and a third balloon-shaped ones. The great majority of the seedlings bore colourless tubers: a few bore pinkish tubers, but none purple or red. Some were smooth, others netted.

Among the seedlings many did not bear flowers: those that did so had, as far as records show, mostly purple flowers, and much fewer white ones. It was evident that a large proportion of the seedlings were not worthy of further cultivation, and they were destroyed before it was possible to see whether any principle could be found underlying their diversity. Only a few have survived the test of time. Special mention may be made of two of them, now named respectively *Kate Kennedy* and *Bejant*.

Kate Kennedy (fig. 47) is a large, netted, white kidney, resembling its seed parent (*British Queen*) somewhat closely,

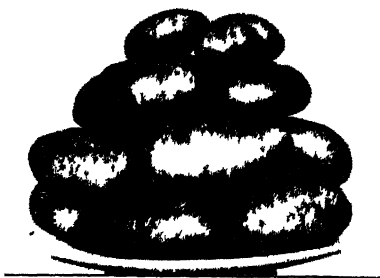


Fig. 48.—*Bejant* (*British Queen* × *Myatt's Kidney*).

and ripening as early. It is a very good cropper, and of fine quality.

Bejant (fig. 48) is an extremely early, netted, yellow-fleshed kidney of the highest quality. It is a very attractive variety, and ought to find its place amongst the finer garden varieties.

New Zealand Variety \times *self*.

The Red variety (New Zealand) is a somewhat late one, with red, deep-eyed, round tubers (fig. 53, d) and very robust haulms, sometimes 4 feet high. The flowers are pale rose-purple, with white points. The pollen is fairly plentiful.

This variety was fertilised with its own pollen. One small fruit was secured, containing only twenty seeds. The seed, poorly ripened, germinated very slowly; indeed, only four plants were above ground after the pot had stood over four months in a greenhouse. Fifteen more seedlings appeared later. Many of the hybrid series of the same age were by that time in flower in the open. None of the seedlings were sufficiently large to plant out the first season. Of the few grown on, one had tubers extremely like those of the parent. In another they were identical in shape with the parent ones, but white. Another white occurred, but very unshapely and poor. The plant with red tubers bore deep rose-purple flowers; the plants with white tubers bore white flowers. No purple tubers appeared, but if a larger number of seedlings had been got, such might have been found to occur. None of the seedlings approached the parent in vigour. Although such was the result, we are not justified in regarding this experiment as a demonstration of the evil effects of in-breeding. The most suggestive point disclosed was the simultaneous loss of colour in the tuber and the flower.

New Zealand Variety \times *Myatt's Kidney*.

In this experiment Myatt's Kidney was again employed as pollen parent. Two fruits were secured (fig. 49). The seeds were not counted, but were sown in separate pots. The first seedlings braided in fourteen days. As usual, some were considerably ahead of the others. They were a much more robust race than that derived from British Queen \times Myatt's Kidney. At lifting-time one was found with haulms 5 feet long, and still green and growing. As was to be expected from such a parentage, very great diversity appeared in the progeny. The seedlings from the one fruit, now designated A, numbered 51. Of these 37 were considered good enough to plant out. One of them died. Notes kept of the remaining 36 show that

the tubers borne by the several plants included deep purple, light purple, red, pink, pink-eyed, and white. By separating these colours into white, purple, and a class to contain the others as intermediates, it was found that they were present in the following proportion: 11 whites, 13 intermediates, 12 purples. Here the ratio of more or less coloured tubers to whites is approximately 2 : 1.

Notes of the flowers of 17 out of the 36 plants were made, and of these 10 were white, the rest purple, purple with white, and rose with white. Five of the white-flowered varieties had

colourless tubers, 4 had pink-eyed tubers, and 1 had red tubers slightly tinged with purple. On the other hand, a plant with white tubers was found to have its flowers rose with white tips.

If colour were present at all in the tubers, it was sure to be developed in the eyes—that is, in the skin of the tuber in the hollow where the bud or buds lie. The colour present makes its appearance very conspicuously in the young blanched shoots, and less noticeably in the stems when they reach the sunlight and develop chlorophyll.

The other fruit B yielded 52 seedlings, of which 34 were planted out. The same variability was found in the tubers of this lot as in the



Fig. 49.—Fruits secured by crossing Red Potato New Zealand variety with Magenta Kidney.

above. In this case the colours were represented as follows: 11 whites, 12 intermediates, 11 purples.

All who have had to do with studies of heredity by statistical methods must perceive that the singularly exact correspondence of the terms of this table with those of the former must be a matter of chance to a great degree, because the numbers dealt with are so small. What we find for certain in the tables is that when a variety with red tubers is crossed with one with white tubers, a series of seedlings is produced in which purple occurs,—a colour present in neither parent,—and that the whites are considerably fewer than the coloured ones in the aggregate. We are led to suspect that the whiteness or colourlessness of

the tubers is the recessive character of the Mendelian philosophy, and if that is so, white tubers are endowed with a feature which is associated with stability.¹

The colour of the flowers in series B varied in a similar way with that of series A. Of 26 plants studied, 17 bore coloured flowers and 9 white. Five of the white-flowered varieties had also white tubers, the other 4 had pink-eyed tubers. Two of the other varieties with white tubers had faint purple with white, and 1 had rose-purple flowers. The remaining 3 with white tubers do not seem to have borne flowers. No deep-purple flowered variety was found to have white tubers.

The colour of the flesh is a character to which more attention should have been given. It varies in both series from what is perhaps best termed lemon, through shades of dull yellow to pure white. These several colours were in both series distributed in a bewildering way amongst the variously coloured tubers. The lemon was found present in examples of purple, rose, and white tubers. The same could be said of the white flesh and the intermediate shades. In a few cases the white flesh was found associated with white skin and white flowers. The whiteness of the flesh, however, is due to an entirely different cause from the whiteness of the flower. In series B the proportion of yellow- to white-fleshed in the tubers studied seemed to be 18:6. The observations made on flesh colour were somewhat hurried, but if the above is correct, it of course points to the possibility of the white flesh of the tubers being a recessive character. This ratio, however, did not seem to be borne out in 28 of series A studied, where the yellow and white appeared to occur in almost equal numbers.

One of the best of the series A has been named Prior (fig. 50). It is a second early, flat oval, white with occasional slight tinge of rose-pink, well-netted, shallow-eyed. The flesh is yellowish-white. The average length of the tuber is about 4



Fig. 50.—Prior (Red variety \times Myatt's Kidney).

¹ Mendel, in his investigations with peas, found that a given character, e.g., the colour of the pea, was either dominant (alone visible) or recessive (lost to sight) in the first cross, and that the dominant and recessive characters appeared in the second generation in the ratio 3 D:1 R. He further found that the recessive character could be relied on as being a fixed one.

inches. Very few small tubers occur. The shaws are robust, 2 to 3 feet high. The quality is excellent. Under generous conditions Prior is an exceptionally heavy cropper, the illustration (fig. 51) showing a drill which produced a crop reckoned as equivalent to about 17 tons per acre. It is practically disease-resistant.

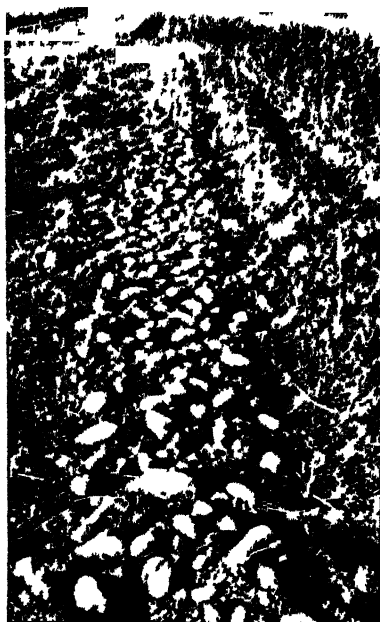


Fig. 51.—Single row of *Prior* as lifted.

In series B there occurred a variety with a peculiarity which caused it to be discarded. The undesirable feature consisted (fig. 52) of a wedge-shaped hollow, sometimes quite shallow but oftener of considerable depth. When deep the tuber was seriously malformed. In a good many cases more than one indentation occurred, and when these indentations were deep the tuber was greatly mis-shapen.

Maincrop × *New Zealand*
Variety.

Maincrop (fig. 53, a) is a variety which has been in cultivation for about thirty years. It is of comparatively robust habit. The tubers are white. The flowers are small, bright rose-purple, with the points of the corolla-lobes white. Pollen is scarce.

In this cross the pollen-bearing parent possessed the coloured tubers. As in the crosses between the *New Zealand* variety and *Myatt's Kidney*, both parents had coloured flowers. In the present case there was great similarity in the flowers of the parents.

One fruit was secured of this cross. It was accidentally broken off before it was quite ripe. It contained only 26 seeds, and of these 18 germinated, and the seedlings were planted out at the same time as those above described. They grew very well, and, taken over all, the haulms were considerably stronger than in the other series described. At lifting it was

found that the tubers were purple, red, pinkish, or white. By



Fig. 52 — *Unnamed seedling (Red variety Myatt's Kidney) of undesirable form*
grouping the red and pinkish together, the proportions were
as follows: 4 whites, 11 intermediates, 3 purples.

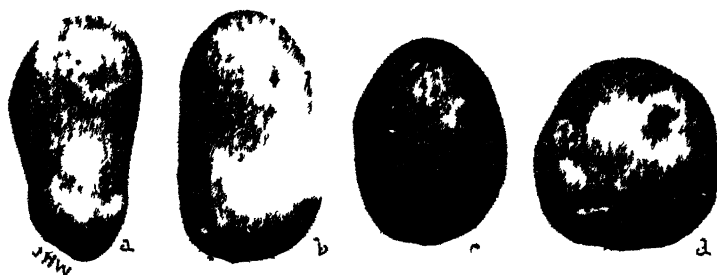


Fig. 53 — a, *Maincrop*, d, *Red variety*, b, c, *progeny*

In this series we find the ratio of the coloured tubers to the white is 35 : 1. As already mentioned, the numbers dealt with

are too small to give reliable averages; but once more we find the appearance of purple tubers (fig. 53, c), although neither parent produces such, and, further, the plants with white tubers are distinctly in the minority.

The flowers of 7 of the varieties were white, 2 were rose with white, and 6 purple with white. Three do not seem to have produced flowers. It is of interest to note again that, although both parents had coloured flowers, a large proportion of the seedlings had white flowers. Only 3 with white flowers had also white tubers. None with deep purple flowers had white tubers.

As in the other series, the colour of the flesh varied from lemon to white, and in only one case do the records show that in one and the same seedling were the tubers, the flowers, and the flesh all white.



Fig. 54.—*Rector Red* variety \
Maincrop

The most interesting of this series has received the name *Rector* (fig. 54). It is a red or russet round maincrop, or somewhat late variety, of medium size, with a splendid constitution and of the highest quality. The shaws are 3 feet high. The tubers are singularly uniform in size, and are

quite disease-resistant. Tested last year alongside of *Up-to-Date* in a considerable area, it was found to be equal to that standard variety as a cropper.

Flower-Colour and Stamina.

The opinion is sometimes expressed that white-flowered varieties of potatoes are not so robust as coloured-flowered ones. It seems natural to associate vigour with the purple and red tints of the skin of the tubers, the darkening of the shade of the stems and foliage, and the colouring of the flowers. The colours in question are present in the cell-sap. Those in the tubers, stems, and leaves are of no more service to the plant, as far as we know, than the purple in the leaves of the purple beech is of benefit to that tree. It may readily be a disadvantage. Again, with respect to the colour of the flower, the white hawthorn is to all appearance as vigorous as the less familiar red variety. No end of instances of this kind could be cited.

It would, I think, be difficult to show that flower-colour is of any importance as a factor in the breeding of improved varieties of potatoes. As far as the present observations go, so many of the varieties which bear white flowers also produce white (colourless) tubers that a presumption might well be entertained in favour of using white-flowered varieties as parents in order to secure such tubers. On the other hand, it is fairly certain that many seedlings with white tubers will appear in crosses with purple- and red-flowered parents. It is wiser to direct attention to the colour of the tubers than to that of the petals.

Seed and Tuber.

The problem of raising new varieties of potatoes is quite different from that of new cereals. In the latter the stock is perpetuated by seed. The seed is a structure containing a new



Fig 55 —On the left, leaf and flower of *Solanum tuberosum* var ;
on the right, *S. Commeisonni*

individual in the form of an embryo derived from a fertilised egg-cell. A potato tuber is only a portion severed from an individual. It is a simple vegetative body, as devoid of any inherent power of variation as a cabbage-stem or a carrot. The question of fixing its characters—that bugbear of the breeder's operations—is quite eliminated in the potato. The tubers borne by the seedling are to be regarded as a finished product.

In how far continuous selection of the best of the tubers can influence the stock is a question not easily answered. It has

been my own practice to choose the best-shaped tubers for a few generations, and to refrain from cutting them up; but it is quite open to question whether the unshapely ones need have been destroyed. It is obviously a case of erring on the safe side. If any improvement were to take place in the variety as the outcome of constant selection of the tubers, it would only be done by a process which cannot be distinguished from sporting. As we already know, sporting is not yet reducible to scientific rules, and is as liable to go in a backward as in a forward direction.

Solanum Commersonii \times *S. tuberosum* var.

The crossing of varieties of the potato (*Solanum tuberosum*) with other tuber-bearing species of *Solanum* is an attractive field of experiment. The only other species I have used is

Solanum Commersonii, a native of Uruguay. It is a plant of much smaller growth than our ordinary potatoes, attaining with me the height of 1 foot or little more. The stems are thin and the leaves narrow. The tubers of my plant are white and rather unshapely; the flowers are small and white (fig. 55). This species is said to like damp ground. Both in the past and previous summers I succeeded in getting a few berries on *S. Commersonii* by crossing with pollen of one or two varieties of potato. The berries swelled and looked quite plump and

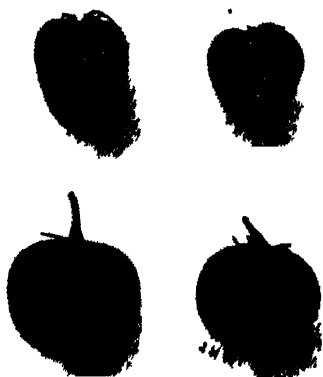


Fig. 56 —Fruits of *Solanum Commersonii* in the top row; *S. tuberosum* var. in the bottom row.

healthy. They were heart-shaped, green, with numerous white dots in the skin (fig. 56), and therefore quite distinct from the spherical fruits of the common potato. Although apparently quite normal in shape, in no case was any seed found in them, the compartments being hollow and empty.

I have pleasure in acknowledging assistance from the Carnegie Trust for the Universities of Scotland in carrying out the observations recorded in this paper.

CHEAP COTTAGES.

At the present time special interest attaches to the question of providing cheap buildings suited for small holdings. Where the extent of the holding is small the dwelling-house will be the costliest item: as to the actual sums which would have to be set apart for reasonably comfortable cottages there has been a good deal of discussion and some difference of opinion.

Mr R. C. Munro Ferguson of Raith and Novar, M.P., has taken much interest in this question, and, with the view of throwing light upon it, he lately had a cottage erected at Raith as a specimen of the sort of house that could be constructed at a cost of £150. Mr Munro Ferguson has been good enough to comply with our request for particulars regarding the construction of this cottage.

The external appearance of the cottage is represented in fig. 57, the ground-plan in fig. 58, and a section at A B, fig. 59.

COST.

The cottage was erected at a cost of £150, but this did not include any fee to the estate architect nor profit to the builder. Neither was any sum embraced originally for sewer drain or water-supply, only an earth-closet being included in the £150. What the cost of sewer drain or water-supply may be for any house cannot be determined till the site is fixed upon. In this case the site was suitable for a sewer system and gravitation water-supply, and both were provided, as well as a bath with hot and cold water, and flushing w.c. These additions, which caused no structural alterations on the cottage, brought the total cost up to £170.

ACCOMMODATION.

The cottage, it will be seen, comprises a living-room 14 feet by 12 feet, two moderately sized bedrooms—the one 13 feet 2 inches by 11 feet, and the other 11 feet square,—with kitchen 14 feet 1 inch by 10 feet, bed-closet, larder, scullery, bathroom, and coal-house. The front door is sheltered by a porch. The walls are formed of brick and wood, and the roof of wood, plaster, and tiles.

The cottage not only looks well but is most comfortable, and has been keenly sought after both by buyers and tenants.

For the convenience of those who may purpose erecting similar houses, it may be stated that a lithographed working

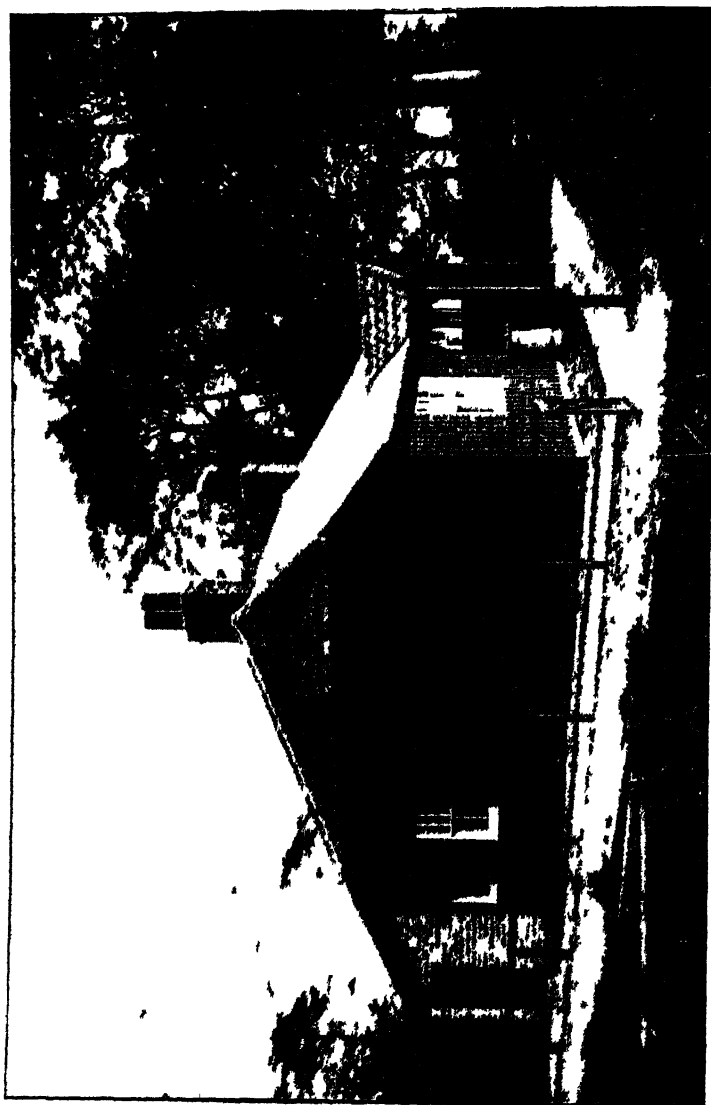


Fig Col. Rav. for £

plan of this cottage, with detached schedules, priced, and specification, can be had for a fee of a guinea from Mr Andrew Graham, clerk of works, Raith Estate, Kirkcaldy.

SPECIFICATION.

The following is the specification for this cottage :—

Foundations are all of concrete 18" x 8", continued with 14" brick wall 12" above ground level with 9" x 6" galvanised ventilators, set in for ventilating underneath floors.

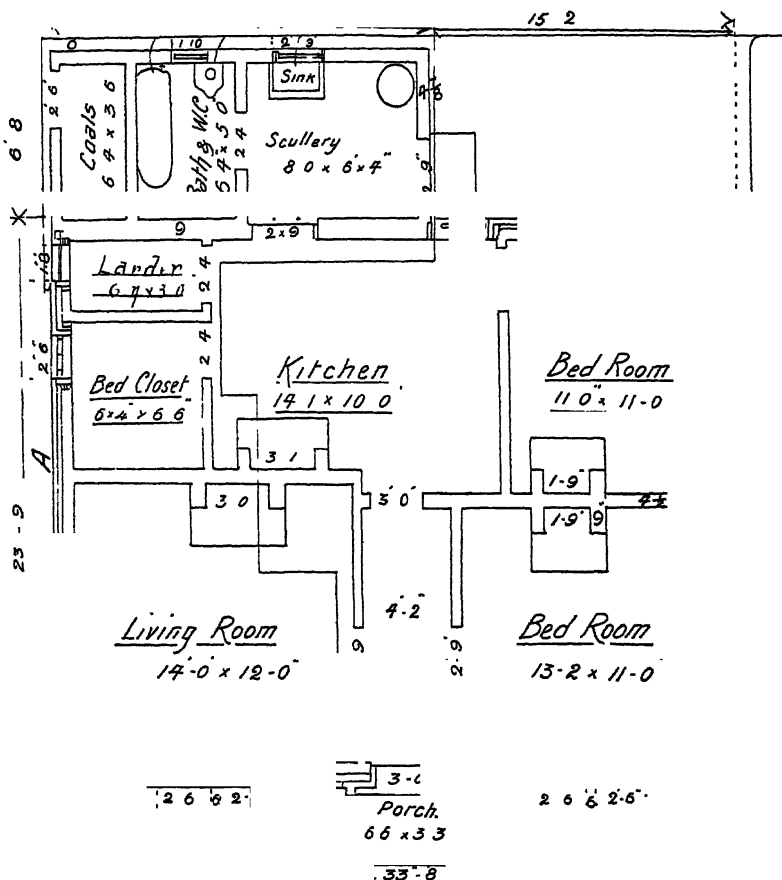


Fig. 58.—*Ground-Plan.*

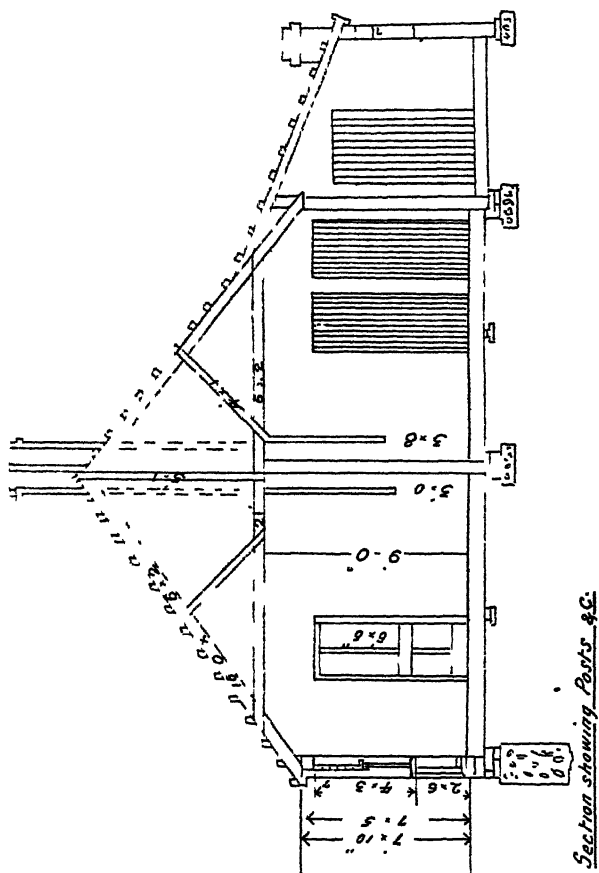
Walls are composed of brick and wood—single brick inside and 6" x 1 1/2" red wood boarding outside, having 1 1/4" between wood and brick of air space. The outside boarding and overlaps for joints are coated with carbolenum outside and inside before fixing up, and again coated outside at completion.

The brickwork of outside wall is built in wood frame. The posts at corners and window openings are $4\frac{1}{2}'' \times 4\frac{1}{2}''$ P.P. let into concrete blocks. As the brick building proceeds the bond wood, $6'' \times 3''$ red wood, is laid

on brick, checked on posts at regular intervals and well nailed for fixing outside boarding. The bond wood and posts are grooved on both sides to admit rivet of mortar.

Partitions.—All $4\frac{1}{2}$ " brick.

Roofing.—Foreign white wood rafters and tie beams $6" \times 2"$, tile lath $1\frac{1}{4}" \times 1\frac{1}{4}"$, and filled in between with plaster lath, and one coat plaster, and covered with double roman tiles.



Joisting, $6" \times 2"$ laid on $4" \times 1"$ wall-plate, and covered with $1\frac{1}{8}"$ tongued and grooved flooring.

Windows cased and 2' sashes, double hung.

Doors.—Front rooms and lobby $1\frac{1}{2}"$ Y.P., framed and panelled; back rooms $\frac{3}{4}"$ plain deal doors.

Lathing.—Ceilings lathed with best Baltic lath.

Plasterer work.—Three coat best plaster on all ceilings and brickwork, scullery, and bathroom, and, where walls are not covered with wood, they are plastered with $\frac{1}{2}"$ thick cement plaster.

Pointer work.—All doors and windows and inside woodwork painted three coats oil paint, and all walls papered.

Grates.—Parlour—tiled grate and hearth; bedrooms—combination grates with metal mantelshelf, value £1, 5s.; kitchen—close-range, B and O boiler self-fed by water.

Drainage.—Sewer drain 4" S. and F. pipes jointed with rope yarn and cement, and smoke tested, having ventilation shaft over roof.

Rhones.—4½" × 4" C. I. O. G. moulded rhones, fitted on to 6" projecting eaves with the necessary water-conductors let into traps.

THE ROYAL AGRICULTURAL COLLEGE, BERLIN.

By JAMES HENDRICK, B.Sc., F.I.C., Chemist to the Society.

IN Scotland agricultural education has recently made great strides, and much attention is being paid to it. It is no longer looked upon by the practical man as the fad of a few enthusiasts, but as something from which he, or his sons, may gain advantage, and which should be encouraged and developed in every reasonable way. While it would be unwise slavishly to imitate what is being done in other countries under conditions quite different from ours, it is useful to know what has been done and is being done for agricultural education elsewhere. There is, even in the agricultural education of countries where the requirements are very dissimilar to those which we have to meet, much which is not only of interest to us, but much from which we may learn something which may be of use to us in our future development.

Last year a very interesting volume was presented to the Highland and Agricultural Society in which a fully illustrated account is given of the history, work, and present position of the Royal Agricultural High School, or College, of Berlin. In Germany the term high school is applied to technical institutions which we would call colleges in this country. I have therefore preferred to translate the word *Hochschule* as college, which better conveys to British ears the idea of the kind of institution which it connotes. This handsome volume was published by the teaching staff of the College under the editorship of Professor Wittmach, to celebrate the 25th anniversary of the foundation of the College. In it a most interesting light is cast on the present state of agricultural education in Germany, and on the way in which agricultural education is viewed by the official classes and by the agricultural public in that country.

In Britain it is only within the last few years that we have attempted to develop a general system of agricultural educa-

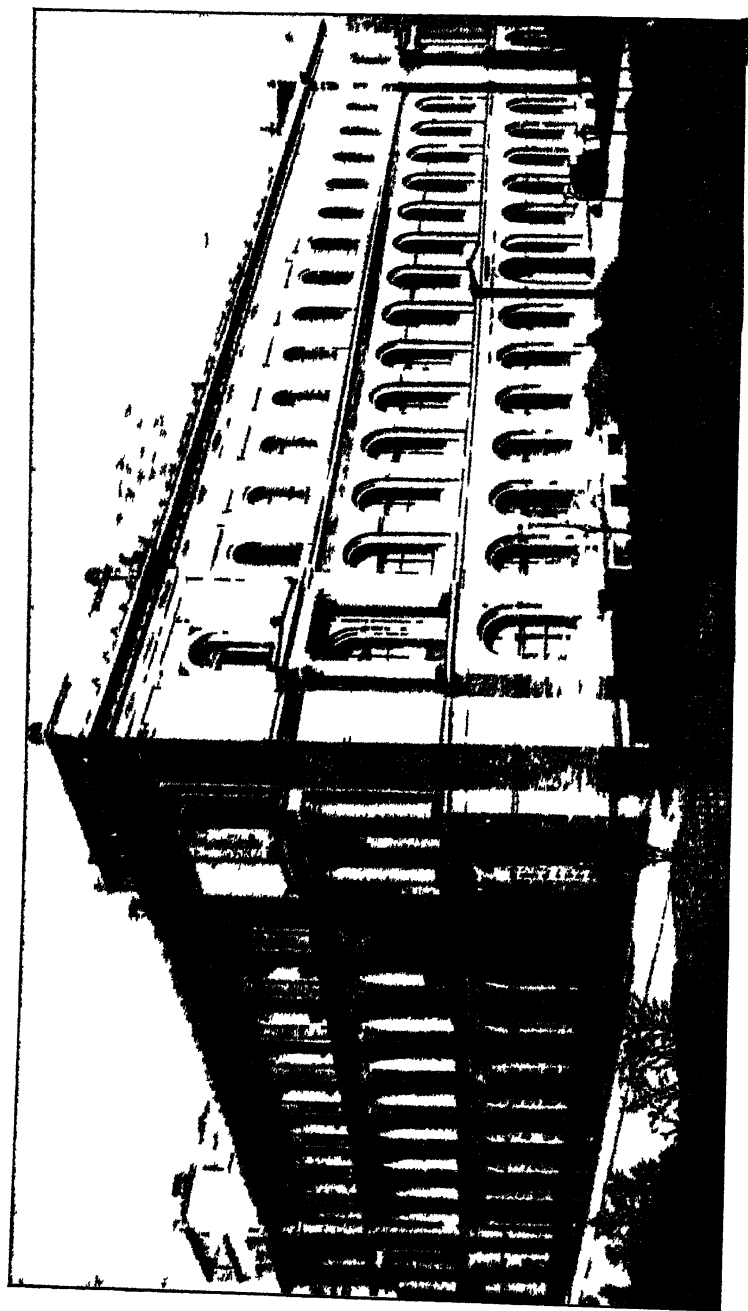


Fig 60 —Royal Agricultural College, Berlin—Main Building

tion: in Germany such a system has been in existence for many years, and they have had more than a generation's experience of its working. Like the system which we are now evolving, it grew up gradually, and did not spring into life according to a uniformly ordered and logically worked-out paper scheme. The various institutions which form parts of their system had various origins, and grew up under various influences, and to the present day they retain their separate individualities and have different organisations and characteristics. No attempt has been made to bring them all to one uniform level as to constitution and methods of work. We find, for instance, that many of the higher agricultural institutions in Germany are departments of universities, while others, among which are some of those with the longest and most distinguished history, are independent colleges. These independent colleges, again, are generally more or less closely affiliated to, or connected with, universities.

In Germany, as in this country, opinion is somewhat divided on the question of whether agricultural, and other higher technical, education should be provided for in separate institutions or in technical departments in the universities.

Of the eight higher institutions for agricultural education in Prussia, five are departments of universities and three are independent agricultural colleges. Among the university departments is included the great agricultural school at Halle, while among the independent colleges are the equally great and flourishing schools of Berlin and Bonn-Poppelsdorf.

In the volume under consideration the question of whether an agricultural college should be a department of a university or an independent college is discussed at an early stage. The authors wisely leave the question an open one, though they state that it is very unlikely that any more separate agricultural colleges will be founded, and that in future any new higher agricultural institutions which may be founded will be departments of already existing universities or technical colleges. Their one conclusion, which applies to this country as well as to Germany, is that, after all, the success of an institution depends far less upon the form than upon the spirit in which it is conducted and which pervades its staff.

It is to be remembered that in Germany all teaching institutions, higher as well as lower, and universities as well as technical and agricultural colleges, are supported and controlled by the State. Though, as in this country, there is a certain dignity and prestige attached to a university, the professors and other teachers in an agricultural or other technical college are given a rank, position, and emolument similar to that which they would enjoy if they were teachers in a university department.

Early History.

The earliest chair of agriculture in a university was founded in 1727 by Frederick William I. of Prussia at the university of Halle. From that year onwards attempts were made from time to time to teach agriculture at various German, including Austrian, universities. The real organised movement in favour of a system of agricultural education can hardly be said to have existed until the beginning of the nineteenth century. Albrecht Thaer, who was a court physician to George III., in his capacity as Elector of Hanover, and who had studied and written extensively upon English Agriculture, is generally looked upon as the father of scientific agriculture and of agricultural education in Germany. He was the first professor of agriculture in Berlin. The University of Berlin was founded in 1810, and Thaer was appointed Professor of Agriculture at the foundation. English agriculture, which was then looked up to as the foremost in the world, and as the model for other countries, had thus a great influence on German agricultural education in its early days.

After the days of Thaer an agricultural school was carried on in Berlin with varying fortunes. A long struggle took place over the question of whether it was to be included in the university as a department or erected into a separate and independent college. In this struggle the great chemist Liebig, who probably did more to advance agricultural chemistry than any other individual, and whose influence was in his day unequalled, threw all the weight of his authority into the scale in favour of the inclusion of agricultural teaching in the universities. In a famous speech on "Science and Agriculture" in 1861, he said that "the separation of agricultural academies from the centres of general culture implied cutting them off from intellectual advance, and the want of development and barrenness of result which distinguishes these academies is due to the narrow outlook of their technical work and their one-sided scientific teaching." This view represents a side of the question for which there is much to be said, which should not be lost sight of in our development of agricultural schools in Britain.

Twenty years later, however, in 1881, the Royal Agricultural College was founded in Berlin as an institution independent of the university though closely connected with it. Its success has been phenomenal. The number of students has increased so rapidly that if we have any similar experience in Scotland our agricultural colleges will soon become equal to the greatest institutions for higher education in the country.

Number of Students in Attendance.

In the first winter session, 1881-2, there were 87 regular agricultural students—that is, students taking an organised agricultural course—at the Berlin College. In addition to these there were 121 extraordinary students—that is, students of other institutions, such as the University, the Veterinary College, &c.—who attended one or two classes only at the Agricultural College. In all there were 208 students. Soon after its formation the College began to increase its classes and the scope of its teaching, and found it necessary to found two new sections or faculties. It therefore now consists of three sections or faculties, each with organised courses of instruction: (1) the Agricultural section; (2) the section for Surveying and Agricultural Engineering; and (3) the section for Technical Agricultural Industries. During last winter session, 1905-6, the numbers of students were—Ordinary students, Agricultural section, 337; Surveying and Agricultural Engineering section, 359; Agricultural Industries section, 162,—total regular students, 893. Extraordinary students, 354. Grand total, all students, 1247.

Though these numbers are so great that they seem almost impossible of attainment to us in our present state of development, they are not more remarkable than the numbers in attendance at some of the provincial schools. Thus in 1905 there were 501 students at the Agricultural College of Bonn-Poppelsdorf; and at the agricultural department of the University of Halle, a city of a little over 100,000 inhabitants, there were in the same year 547 students.

We have in Scotland a people distinguished, like the Germans, for their love of learning, and for their keen appreciation of all that is practical and makes for material success. Our agricultural colleges should be able to achieve as great a success as those of Germany if they can gain the same measure of public confidence and respect by equipping themselves as thoroughly, and producing as complete and inspiring a system of education as has been produced there.

Age and previous Education of the Students.

The students of the German agricultural colleges are as old as, or older than, those in attendance at similar institutions here. One of the questions discussed very near the beginning of the volume under review is of much interest to us also. It is the question whether the agricultural student should come straight from school to college, or have a year or two of practical experience first. Though at one time opinion was

very divided on this point, it is now practically unanimous in Germany in favour of students having a year or two of practical work before coming to college. In Germany it is now held as a matter of course that every agricultural student has some practical experience. This course has many advantages. The student's mind is more mature and more fitted to benefit by the college instruction. His practical experience helps him better to understand and apply the theory. It is better to get practical training on an ordinary farm working for profit than on a college farm, which should be used rather as an experiment station.

This is a question which requires to be very carefully considered in Britain. Many of our students are too young, and would gain much greater advantage from the courses were their minds more mature and had they a better appreciation of the practical difficulties of farming. The average age of the Berlin agricultural students at entry is about 21 years, and they have had on the average two or three years' farm experience. In our case some difficulty might arise over entrance examinations. The longer a student is away from school the more difficult it is for him to pass entrance examinations in school subjects. In a well-organised system, however, this difficulty would readily be got over.

Entrance Examinations.

In Germany there are no entrance examinations for the universities and other higher educational institutions, but a student, to be admissible to any university or college, must have passed a certain standard at school. He must take a leaving certificate of a certain standard and at a certain class of school. This ensures that the student will come to college with a sufficient preliminary training to fit him to take advantage of the college classes, and renders entrance examination unnecessary. We have in Scotland already a similar system, but it is only partial. In Germany it is universal, and entrance examinations at college are quite done away with. It is to be remembered that in Germany all students, agricultural as well as others, remain longer at school than is the rule here, and all have attended a secondary school before coming to college.

Sessions and Courses of Study.

There are two sessions, a summer and a winter session, in the academic year at the agricultural colleges and other higher teaching institutions in Germany as in Scotland. The organised courses at the agricultural colleges are arranged so as to

include winter and summer sessions equally. Still, as with us, there is a difficulty in getting agricultural students to attend during summer. The numbers are always much smaller during the summer than during the winter session, for many students return to practical work in summer.

There are two organised courses of study in the agricultural section of the Berlin College: (1) a two-years' course, consisting of two winter and two summer sessions; and (2) a three-years' course, consisting of three winter and three summer sessions. The two-years' course is for farmers and those who intend to return to practical agricultural pursuits; while the three-years' course is intended for teachers and specialists.

All the experience in Germany goes to show that a two-years' course of four sessions—two winter and two summer—is far preferable to a three-years' course consisting entirely of winter sessions. There is much work which can be properly done only in summer. Summer is the season when plant growth and animal life of all kinds are active. There are whole subjects, such as botany, entomology, and large parts of agriculture, which must be taught almost entirely from dead specimens and diagrams unless they can be taught in summer. Therefore the German colleges make every effort to induce their students to attend in summer as well as in winter.

It is of interest to us in Scotland, where we are at present trying to work out what is the best course for students of different kinds, to find that a two years' course is considered quite long enough for the ordinary agricultural student. Their experience has shown that it is difficult to persuade ordinary agricultural students who intend to go back to farming to attend for a full two years' course. Most of them will attend for two winters, but it is difficult to get them to attend in the summer sessions as well, and they consider, apparently, that it would be useless to attempt to raise the course for such students to three years.

So also only a small proportion of such students complete their examinations for what would correspond to a diploma with us. A great many merely want the information and do not care to trouble with diploma examinations. Every teacher in our colleges here has had somewhat similar experience. A large proportion of our agricultural students in Scotland also are not anxious to work for a diploma examination, and unless they intend to make application for posts where a diploma is likely to be of service to them, readily take the view that a farmer has no use for a diploma or degree.

Agricultural Diplomas.

On the other hand, in Germany, as here, the considerable class of students who intend to become agricultural teachers or specialists are ready to take a three years' course, and to present themselves for examinations for a diploma or degree. So there is there, as here, a class of students who intend to apply for posts in practical agriculture, and these take the full two years' course and wish a diploma at the end of it. In Germany there are a great many appointments open to such men. There are in many districts in that country great arable farms, or rather estates, often of thousands of acres in extent, which are farmed by the proprietors, with the help of skilled managers and inspectors. These posts are generally given to those who have both practical experience and a college training.

In Scotland there has recently been some discussion over the titles given to students who take agricultural diplomas, and very properly much objection has been taken to the unnecessary multiplication of such titles. In Germany the difficulty is the other way. Although they have had agricultural colleges for many years, training large numbers of students and subjecting them to qualifying examinations at the end of their courses, they have not yet found a suitable and distinctive academic title to give such students. This difficulty apparently extends beyond Germany and is felt in the neighbouring countries. The matter was therefore discussed at the last International Agricultural Education Congress at Liège in 1905, and two resolutions were passed. The first resolution declares that all students of higher agricultural teaching institutions who have passed their final examinations shall receive a distinguishing academic title. The second resolution refers the consideration of a uniform title to be granted to such students to the next Congress.

Training of Teachers.

In order to qualify as teachers of agricultural subjects, students have to attend a full three years' course of six sessions and to pass the necessary examinations. They must also have at least two full years of practical farm experience. Then after all this they must successfully serve a year as a teacher in one of the ordinary agricultural schools. In addition to the agricultural colleges and agricultural departments of universities, there are a very large number of middle and lower agricultural schools dotted over the whole country. After he has passed his college examinations and his two years' farm training, every person who intends to qualify as an agricultural teacher must teach for a year with success in one of these schools. It is only

after all this that he gets his certificate constituting him a fully qualified agricultural teacher, fit to be appointed to a post in one of the many agricultural schools or colleges of the country. In no part of Britain have we yet raised our qualifications for agricultural teachers to such an all-round high standard.

It is particularly noticeable that the practical farm training required is longer than is insisted upon in this country. For all classes of agricultural students in Germany practical farm experience is insisted upon. There are many in this country who think that students of our agricultural colleges should attend and work upon a college farm, simultaneously with their attendance at classes at the college. Those who hold this opinion would have the professors and lecturers of our colleges teach ordinary practical farm work and exercise the students in it. They would have the students learn farming at the college as well as sciences connected with agriculture. The German system is quite opposed to this idea. It insists that all agricultural students shall have practical farm experience, but considers it best that they should obtain it on ordinary working commercial farms. It provides its colleges with farms and gardens, but they are to be run as experimental stations and demonstration stations, and not as commercial farms. In fact, they bear the same relationship to the commercial farm that the engineering laboratory does to the engineering workshop. In this system the college is very thoroughly equipped with everything for teaching and illustrating every branch of knowledge which bears on agricultural practice, but its resources are all applied to imparting knowledge and a mental training to the student, and not to exercising him in farm practice.

Department of Surveying and Agricultural Engineering.

Soon after the Berlin College was founded it was discovered that there was a considerable number of students who did not intend to become farmers or agricultural teachers, but who wished to become surveyors, estate agents, agricultural engineers, and suchlike. A special section was therefore instituted for them. The name of this section or faculty may be freely translated as that of Surveying and Agricultural Engineering. The students of this section require to learn a certain amount of ordinary agricultural science, but they also require a great deal of special instruction—in mathematics, engineering, architecture, and building construction, surveying, construction and upkeep of roads, bridges, waterways, &c., agricultural law, and political science—which is not required for the ordinary agricultural student. Therefore,

in 1883, special courses were instituted and a special curriculum was laid down for such students. The experiment has been fully justified. In 1883-4 they had a class of 28 students; last winter session the numbers in this section had increased to 359, and in some sessions the number has been considerably over 400.

In Berlin the students of this department, before they come to the classes, must have had at least one year's practical experience. They have then to go through courses of study, which are divided into the following sections: 1. Mathematics and Physics; 2. Surveying and Land Measuring; 3. Engineering and Building Construction, including building materials and construction of roads, bridges, and waterways; 4. Law and Political Science; 5. Agricultural Sciences, including Forestry.

Department of Agricultural Industries.

A third class of students for which the Berlin College makes provision consists of those who wish to study Agricultural Industries. In Germany and other countries a number of industries are classed as agricultural which are scarcely regarded in that light here. We regard the manure, seed, and implement industries as agricultural, but do not class brewing, distilling, sugar manufacture, vinegar manufacture, and starch manufacture as agricultural industries. The agricultural industries for which the Berlin College makes special provision are: 1. Fermentation industries—i.e., brewing, yeast manufacture, vinegar manufacture, and spirit manufacture; 2. Starch manufacture; and 3. Beet sugar manufacture. All these are industries directly founded upon agriculture and closely related to it; and the associations of manufacturers engaged in these industries co-operated with the Agricultural College in founding organised courses in the college bearing on these industries. In this country, so far as courses for such industries exist at all, they are provided in institutions other than agricultural. The institution of these courses in Berlin has been fully justified by the number of students who have taken advantage of them.

The Staff of the College.

In order to provide for the instruction and accommodation of all these different classes of students a very extensive staff and equipment are required. All the German agricultural colleges and university departments are staffed and equipped in a way we have not yet approached. There are three classes of teachers in the Berlin School, and the same is the case in most other higher agricultural institutions. First, there is the inner circle or, as it is termed in German, *college*, of teachers,

the professoriate, a kind of senatus which has control of the courses of study and discipline. This consists of seventeen State-recognised professors and the director of the Sugar Industry Institute. Second, there are the paid lecturers, nineteen in number. These are largely professors or specialists of other institutions, who are paid a salary to give a course in the Agricultural College. For instance, all the veterinary teaching is given by lecturers who are professors in the Royal Berlin Veterinary College. Third, there are unsalaried lecturers (*privat doctenten*), nine in number. These are teachers who are provided with accommodation for lecturing, and are allowed to charge students certain fees for attendance at their classes, but are paid no salary. They have to be approved by the inner college (professoriate), and have to comply with certain statutory qualifications, among which is that, in addition to university study and a doctor degree, they must have had "at least two years' practical experience of agricultural work." Some of these also are professors or specialists in other institutions in Berlin, and they include lecturers on tropical agriculture and on meteorology. Altogether, there is thus in the Berlin College a lecturing staff consisting of forty-five, and there is a large number of assistants in addition.

Range of Study.

The range covered is not only wider than with us, but the subjects are more subdivided and specialised. Thus there is no professor of agriculture. He is divided up into various sections. There are professors of animal industry, of vegetable industry and soils, and of agricultural machinery, two professors of surveying, and a professor of an untranslatable subject, which may be roughly rendered as agricultural industrial science. There are in chemistry a professor of pure chemistry, a professor of technical chemistry, and a professor in charge of the agricultural chemical research station, who gives a course on agricultural research, but whose principal work is research and the control of the analyses of fertilisers and feeding-stuffs, &c., from the province of Brandenburg, which the college is supposed to serve. This professor has no fewer than eleven skilled assistants engaged in the work of the research station and in the analytical control work. There are also professors of mathematics, physics, zoology, geology and mineralogy, botany, and animal physiology. Among the lecturers are five in veterinary subjects; five specialists from the Ministry of Agriculture, who lecture on vegetable pathology, moor culture, agricultural engineering, construction of roads, bridges, and waterways, and agricultural law respectively. There are other lecturers for

such subjects as forestry, agricultural entomology, fish culture, agricultural co-operation, agricultural history, and different branches of technical agricultural chemistry.

Though with all these teachers the curriculum is wide, it is not complete, and in certain branches other German agricultural schools are much more completely staffed. The different German agricultural colleges, like our own, have to a certain extent developed in different directions and specialised in different directions. Still, it is surprising to find that, in a college which provides lecturers on moor culture, fish culture, and meteorology, there are no teachers of any branch of science connected directly with dairying. Some of the German schools have developed specially on this side, as the West of Scotland College is very properly doing in our own country. There is a very large dairy industry around a great city like Berlin, and one might have expected to find in so extensive a staff a specialist on, for instance, the highly specialised subject of dairy bacteriology. Even in Berlin they have not reached the limits of growth and extension.

Buildings and Equipment.

The buildings and equipment are nearly all provided by the State. In 1876, when it was decided to found the college, the House of Representatives voted nearly £130,000 for building and equipment. With this the central building of the college, which was opened in 1881, was provided. Already in 1883 they commenced to enlarge their buildings, and further capital sums were voted. When it was decided to found the Department for Fermentation Industries, they provided for it in a new building quite apart from the central buildings and some distance away. For this the State voted over £50,000, and other sums were provided by the industries interested. So all through the history of the college there have been every few years extensions and additions, mainly provided for by the State. Between 1900 and 1906 the State has spent about £75,000 on the acquisition of land alone for the extension of the central buildings.

The main buildings (fig. 60) are in a central position alongside the Natural History Museum and the Royal Academy of Mines, not far from the Royal Veterinary College and the University, and near to some of the principal railway stations. The institutes for fermentation industries, for sugar industry, and for cereal industries are situated some distance away in three separate buildings which are alongside one another. The experimental fields and botanic gardens are situated a few miles out of Berlin, but can easily and rapidly be reached by rail.

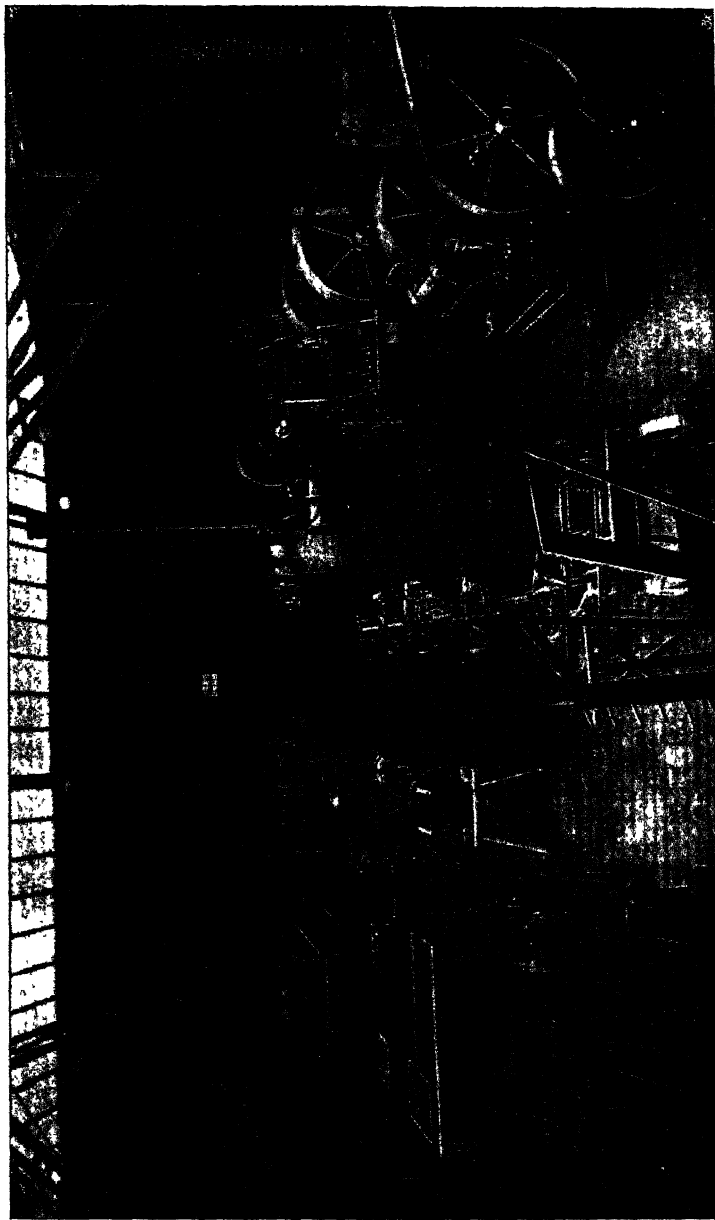


Fig. 61 — *Machinery Hall, Royal Agricultural College, Berlin.*

The buildings are of such extent as to convey the idea rather of a university or university college than of merely a college of agriculture. For instance, in the department for agricultural machinery there is in the central buildings a large museum for machines and models. This museum contains 1494 exhibits; but only the models and lighter machines and implements are exhibited here. It was found that the vibration caused by the heavier machines was injurious to the building and troublesome to the other departments, so in one of the additions made to the central buildings a new machinery hall, having a floor space of over 700 square yards, was built (fig. 61). It was made suitable for heavy machines in motion, and in it all heavy machines, including prime movers like farm steam-engines, gas- and oil-engines, are kept. These engines are all fitted up and attached so that they can be worked and their construction and working illustrated practically to the students.

Machinery Testing and Research Station.

In addition to this, a new testing and research station for agricultural machinery and new technical machinery laboratories were opened in 1905, and constitute the latest addition to the equipment of the college. This department is meant to serve two purposes. It is to serve as a place where farmers and agricultural societies of the Province of Brandenburg can obtain advice and help with regard to machines; and it is, in the second place, to serve as a department of the college. It is under the charge of a professor of the college, but occupies buildings of its own apart from the college. It contains a great hall, over 50 yards long and 40 broad, for the exhibition of machinery. This department was founded at the instance of the Chamber of Agriculture of the Province of Brandenburg.

The other departments are all conceived and furnished on a similar scale, with laboratories, museums, workshops, and lecture-rooms of the most complete and thoroughly equipped kind. There are, for instance, several different sets of chemical laboratories set apart for different purposes.

General Chemical Department.

There is, first, the general chemical department, which occupies a set of rooms in one of the extensions added to the main building. In this general chemistry, theoretical and practical, is taught, and special courses in agricultural and technical chemistry are given. In all, seven separate courses are specified which are given in this department. Provision is also made for carrying on chemical research in this laboratory.

Agricultural Chemical Research.

In the second place, there is the Agricultural Chemical Research Station for the Province of Brandenburg, which is now included in the college, and is provided with laboratories in it. This research station was originally founded in 1857, and continued to be an independent institution till quite recently, when it was joined on to the Agricultural College, and its director made a professor in the college. The work of this department is not confined to research in agricultural chemistry. In addition, it performs the official analyses of manures, feeding-stuffs, soils, crops, dairy products, and other agricultural substances, as well as seed-testing and certain classes of bacteriological investigations, for the Province of Brandenburg. This is what is called its work as a "control station." In this section is included all the work which in this country is performed by the official analysts under the Fertilisers and Feeding-Stuffs Act, and, in addition, a great deal of work, such as seed-testing, which is not performed at all by any publicly recognised official here. In the year 1905 over 6000 samples were analysed or tested under this section.

There are three chiefs of departments—the analytical, the botanical, and the bacteriological—and eight assistants, who work under the professor mainly at this control work. These laboratories are also used for the instruction and exercise of students in methods of analysis and control of manures, feeding-stuffs, seeds, soils, &c. They are fitted in the most modern fashion, and have everywhere electric power for driving mills, sieves, stirring and shaking apparatus, and for heating fat-extractors, &c. On the experimental fields connected with this department field experiments both for research and demonstration purposes are carried out. Researches into plant cultivation, soil bacteriology, and similar subjects are also carried on.

In addition to the above laboratories, chemical laboratories are also provided in the separate buildings or institutes for sugar and fermentation industries, specially fitted for the technical chemical work which is carried on in connection with these industries. In connection with these, also, another experimental research field and a pot experiment station are provided.

Excursions to Country.

In the surveying faculty special areas are provided in order that practical field-work may be carried out. A special grant is also made to this section, so that students may be taken to the country for practical exercises, and to visit and inspect various agricultural engineering works.

It is stated that the various professors are expected to keep as closely in touch as possible with practice and with practical matters in connection with their various subjects. For this purpose they are encouraged to make expeditions with selected parties of their students to the most various parts of the empire for purposes of study. In some cases such expeditions have even been made at the expense of the State to places of interest outside the German Empire. They also visit with their students the shows of the great German agricultural societies and the leading experimental stations.

It is a pity that something similar cannot be done in this country. No better lesson could be given to a senior class in agricultural chemistry, for instance, than a visit to such experimental stations as Rothamsted and Woburn. The Irish department of agriculture are following the Continental example in this matter, and send annually a selected party of the students at their highest agricultural classes in Dublin to expand their minds and widen their outlook by visiting some places of agricultural interest in England or the Continent.

Members of the staff of the Berlin College are also sent from time to time by the Ministry of Agriculture to visit exhibitions and to take part in congresses in various parts of the world. Thus parties of them visited in their official capacity the international expositions in Chicago, Paris, Rome, St Louis, and other places. It is greatly to be desired that our colleges would so far follow this example as to, at least, give facilities to members of their staffs to visit the great congresses on agricultural education and other agricultural matters which from time to time take place in different parts of the world. At most of these congresses British agricultural teachers are entirely unrepresented, as only an occasional individual has either the time or the means for attending them. The American colleges, like the German, constantly send their teachers to expand and refresh their minds and increase their knowledge by visiting congresses, experiment stations, colleges, and other places of agricultural interest in the most distant parts of the world. If the State cannot do this for us in Britain as it does in Germany, we need the help of wealthy benefactors like those who are doing so much to promote in every way the higher education of the United States and Canada.

Short Courses for Practical Farmers.

The Berlin College has for many years past held annually during the winter short courses for practical farmers. These have been largely attended. In most years since 1893 the class has numbered over 100. These numbers, however, are not

beyond what we have seen reached in Scotland. In this connection it is to be remembered that the German colleges do not attempt to carry on so diverse and widely-scattered a work as our colleges must do in our present state of development. Much of what has at present to be attempted by the staffs of our agricultural colleges is in Germany more thoroughly accomplished by other agencies. Thus in Germany they have a system of lower and intermediate agricultural schools which lead up to the agricultural colleges. They have also a system of winter agricultural schools, and there are a great many series of lectures given throughout the country by expert lecturers, who act under the auspices of such agencies as the chambers of agriculture. These agencies take the place of the extension lecturing which is at present carried out by the colleges in Scotland, and leave the staffs of the colleges to devote themselves entirely to their legitimate work.

Cost of Maintaining the College.

The cost of maintaining a great institution like the Berlin College is very great. Most of this is borne by the State. In 1905 the total revenue of the college, apart from State grants, was about £7700. The total expenditure was about £36,400. The balance of £28,700 was borne by the State. In addition to this there was a considerable capital expenditure taking place. For instance, with the help of the union of German millers and the State, they were in 1905-6 building a new technical department for cereal industries at a cost of over £30,000.

The above short account of their sister in Berlin is sufficient to show that our agricultural colleges in Britain have still some progress to make before they reach an equal state of development. In Canada a new agricultural college is at present being founded at a cost of £600,000, gifted for the purpose by Sir William Macdonald, a prominent and wealthy Scotch-Canadian. Our colleges in Scotland require support on a scale similar to that obtained from the State in Germany and from wealthy benefactors in Canada if they are to accomplish similar work.

DAIRY INVESTIGATIONS IN THE NORTH-EAST OF ENGLAND.

INFLUENCE OF FOOD ON MILK YIELD.

By DOUGLAS A. GILCHRIST, Professor of Agriculture, and C. BRYNER JONES, Lecturer in Agriculture, Armstrong College, Newcastle-upon-Tyne.

IN a former article (see 'Transactions,' fifth series, vol. xviii. p. 63, 1906) dairy research work in the counties of Durham and Northumberland was reported on, which had been carried out in connection with Armstrong College, Newcastle-upon-Tyne, in the years 1903-5. In this second article the subjects dealt with are the results of experiments on Mr J. McLaren's farm at Offerton Hall, Sunderland. This work is being subsidised by the Durham County Council, as fully explained in the previous article.

Effects of Different Quantities of Concentrated Food on Milk.

In connection with the Offerton scheme previously described, a series of experiments on the feeding of dairy cows was commenced at Offerton Hall in the beginning of 1904, the object being to test the effect on the milk of *moderate and heavy amounts respectively of concentrated food*. It was not the intention of those responsible for the experiments to enter upon the larger question of the effect of food upon the milk generally, but rather to determine, once the cows receive an adequate allowance of concentrated food in their daily ration to keep them in a thriving condition, whether there is any real advantage in increasing this allowance with the object of improving the milk, either in yield or quality, or both. In view of the opinions which prevail in many quarters upon this point, the results of such experiments should be of considerable interest to dairy farmers. Two series of experiments have now been completed, in each of which two lots of cows were fed with different quantities of the same concentrated food, all other conditions being the same for both lots.

I. TRIALS WITH HOUSE-FED COWS.

Before the commencement of each series of experiments preliminary trials were conducted with a larger number of cows than was actually necessary, the object of this being to

eliminate any animal which was not comparatively "regular," both in the yield and quality of its milk, as well as to furnish the data necessary for satisfactorily arranging cows in lots. At the end of the preliminary trials the cows were selected finally for the purpose of the experiment, and these were divided into two lots of five. The cows were milked three times a-day, which is the practice at Offerton, the hours of milking being 5 A.M., 12.30 P.M., and 6 P.M. The mixed milk of each lot was sampled morning, noon, and evening, each sample being placed in a bottle and labelled. There were thus every day three samples taken from each lot. The total milk of each lot was weighed at each milking, and the quantity recorded on sheets printed for the purpose. The butter-fat was estimated by means of a Gerber Acid-Butyrometer, and the "solids-not-fat" calculated in the usual way, the results being then recorded on the sheets side by side with the milk yield for each day.

In the first series of experiments the cows were divided into lots according to their live-weights, and at the end of the preliminary trials the two lots stood as follows:—

	Average yield of milk per cow per day.	Per cent of butter fat in daily yield.	Average live-weight.
Lot I . . .	23.47 pints	3.45	1064 lb.
Lot II . . .	25.04 "	3.36	1068 "

The difference in live-weights between the two lots was, as will be seen, very slight; the difference in butter-fat was by no means great; but that in the yield was considerable, although not so great as to interfere much with the results of the experiment.

It was decided that the amount of concentrated food supplied to the cows should be 8 lb. and 12 lb. per day for Lot I. and Lot II. respectively, the bulky food being the same for both lots. The full daily rations used were as follow:—

Lot I.		Lot II.	
8 lb. con- centrated food.	3 lb. maize meal. 2 " malt dust. 3 " Egyptian cotton-cake. 6 " chopped straw. 15 " hay. 60 " roots.	12 lb. con- centrated food.	4½ lb. maize meal. 3 " malt dust. 4½ " Egyptian cotton-cake. 6 " chopped straw. 15 " hay. 60 " roots.

In calculating the ration for Lot I., care was taken to supply on the average each animal in its daily ration with the minimum amount of organic matter required. Lot II. thus received 4 lb. a-day of concentrated food per cow in excess of its re-

quirements from the theoretical standpoint, and an opportunity was thus given of determining whether this extra food would be utilised by the animal for the production of more or better milk than Lot I., having regard, of course, to the original difference between the two lots in this respect. With a view of making allowance for individual differences between the cows, the ration for Lot I. was calculated for 1150 lb. live-weight. The ration for this lot originally contained 29·24 lb. organic matter, and that for Lot II. 32·52 lb. It was found necessary at the end of a fortnight to reduce the quantity of hay for each lot from 15 lb. to 12 lb. per day, as the cows did not consume the amount originally given. The total organic matter was thus reduced to 26·9 lb. per day in the case of Lot I., and to 30·18 lb. in that of Lot II. The cake and meal and chopped straw were made into "crowdy" before being fed to the cows. The mixture of concentrated food and chop, already weighed out for each lot, was placed in a vessel and hot water poured upon it. The "crowdy" was thus prepared every afternoon for use on the following day. Water was supplied *ad lib*.

The first experiment of this series was commenced on February 10, 1904, when the cows were placed on the above rations, and continued till May 3—a period of 12 weeks.

The second experiment of the first series was commenced on June 1, a month after the first experiment was completed. The cows were then on grass, and the two lots were reversed as regards concentrated food, Lot I. being given a fairly heavy allowance for summer feeding, and Lot II. a light ration. The daily rations were as follow:—

	Lot I.		Lot II.
8 lb. con- centrated food	4 lb. maize meal. 4 " Egyptian cotton-cake. 3 " chopped straw.	4 lb. con- centrated food	2 lb. maize meal. 2 " Egyptian cotton-cake. 3 " chopped straw.

The same object was kept in view throughout the inquiry, while by reversing the cows in this manner it was thought that the second experiment would act as a check upon the first. The cows were kept on these rations for a further period of 12 weeks. It should be stated that the cows received from the middle of July to the end of the experiment, August 24, a small quantity of green tares, each lot receiving the same allowance.

The results of this first series of experiments led to a second series being carried out with a fresh set of cows. Arrangements were accordingly made in the autumn of 1904 to commence the second series on the same lines. Preliminary trials

were conducted as before, the ten cows selected being then divided into two lots according to the yield and quality of the milk, and not according to their live-weight as in the previous case. At the end of the preliminary trials the two lots of cows in the second series stood as follows:—

		Average yield of milk per cow per day.	Per cent of butter-fat in daily yield	Average live-weight.
Lot I.	. . .	27·4 pints	3·32	1134 lb.
Lot II.	. . .	27·6 "	3·23	1195 "

The rations used in this case were similar to those in the first series as far as the relative proportion of total organic matter is concerned. The cows, however, were heavier on the average, and the smaller ration was so calculated that it would contain the minimum organic matter required for a cow weighing 1200 lb. live-weight. The daily rations supplied per 1000 lb. live-weight were as follow:—

Lot I.			Lot II.		
8 lb. con-	4 lb. maize meal.		12 lb. con-	6 lb. maize meal.	
centrated	2 Bombay cake.		centrated	3 Bombay cake.	
food	(2 linseed cake.		food	(3 linseed cake.	
	6 chopped straw.			6 chopped straw.	
	12 hay.			12 hay.	
	50 roots.			50 roots.	

The total amount of organic matter supplied to Lot I. was 30·98 lb. per day, and for Lot II. 34·94 lb. It will thus be seen that even Lot I. received considerably more than the theoretical minimum. The cows were placed on these rations on November 1, 1904, and the experiment continued till January 23, 1905—a period of 12 weeks as before.

As soon as this experiment came to an end, the cows were reversed, Lot I. receiving the heavier ration, and Lot II. the lighter, and were fed in this manner for a further period of 12 weeks—from February 1 to April 25, 1905.

As in the earlier experiments, the cake and meal and chopped straw were made into "crowdy," and drinking water was supplied *ad lib*.

The reader will thus see that the two series of experiments consisted of four complete trials. Two different sets of cows were tested at different times, each set being under experiment for 24 weeks. Each set of cows consisted of two lots, and each lot was placed in turn upon a heavy and a moderate allowance of concentrated food for a period of 12 weeks. The following table gives in a concise form the order in which the experiments were carried out:—

FIRST SERIES.

SET OF 10 COWS IN TWO LOTS OF 5.

	Period.	Allowance of concentrated food.	
		Lot I.	Lot II.
Experiment A .	Feb. 10-May 3, 1904 .	Moderate	Heavy
Experiment B .	June 1-Aug. 24, " .	Heavy	Moderate
(Rations reversed).			

SECOND SERIES.

FRESH SET OF 10 COWS IN TWO LOTS OF 5.

Experiment C .	Nov. 1, 1904-Jan. 23, 1905	Moderate	Heavy
Experiment D .	Feb. 1-April 25, 1905	Heavy	Moderate
(Rations reversed).			

Effect on the Yield.

It is not possible, within the limit of the present article, to deal with the results in great detail. They will, therefore, be taken as a whole, sufficient data being given in support of the conclusions arrived at to enable the reader to follow the trend of the experiments. It will be more convenient if we take the results dealing with the effect of the rations upon the quantity and quality separately. The following tables show the effect of the rations on the yield in experiments A and C. These experiments are the first in each series, and relate to two different sets of cows.

EXPERIMENT A.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending :—	Lot I. 9 lb. concentrated food.				Lot II. 12 lb. concentrated food.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total.
Feb. 16 . . .	47.25	30.5	24.7	102.45	53.5	32.3	28	113.8
" 23 . . .	43	29.2	22.8	95.0	53.1	35.5	30.25	118.85
March 1 . . .	44.3	29.3	22	95.6	55.2	35	28	118.2
" 8 . . .	45	29	23	97.0	52.6	34.3	29.2	116.1
" 15 . . .	44.3	29	22.5	95.8	53.5	34.7	29.5	117.7
" 22 . . .	43	28.8	21.8	93.6	51.3	33.5	27.5	112.3
" 29 . . .	39.3	27.4	21	87.7	47.6	31.8	25	104.4
April 5 . . .	42	28	21.2	91.2	47.8	31	24.5	103.3
" 12 . . .	41.3	28.5	21	90.8	47.4	31	24	102.4
" 19 . . .	41	28	21.6	90.6	49	33	28.4	110.4
" 26 . . .	44	30.5	23	97.5	51.8	34.5	28	114.3
May 3 . . .	43	30.3	25	98.3	51.2	35	30	116.2
Average per lot per day }	43.12	29.04	22.46	94.62	51.16	33.46	27.69	112.31

EXPERIMENT C.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending :—	Lot I. 8 lb. concentrated food per 1000 lb. live-weight.				Lot II. 12 lb concentrated food per 1000 lb. live-weight.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total.
Nov. 7 . . .	61	37	33	131	65	39	36	140
" 14 . . .	58.5	34.5	31	124	67	38.5	35.5	141
" 21 . . .	58	34.5	29.5	122	61.5	36	32.2	130
" 28 . . .	54	33	27	114	59	36	29	124
Dec. 5 . . .	51	31	26	108	62	38	30.5	130.5
" 12 . . .	54	34.5	29	117.5	63	38.5	30	131.5
" 19 . . .	57	34.5	27.5	119	64	38	30	132
" 26 . . .	58	35.5	27	120.5	62.5	39	30	131.5
Jan. 2 . . .	57	34	26	117	64	38	30.5	132.5
" 9 . . .	57	33	27	117	63	37	30	130
" 16 . . .	57	36	27.5	120.5	64	39	30.5	133.5
" 23 . . .	58.5	35.5	27.5	121.5	62	37.5	30	129.5
Average per lot per day }	56.75	34.41	28.16	119.33	63.08	37.87	31.18	132.16

In both these experiments it will be seen that the heavy ration caused an increase in the milk yield. The increase in Experiment A amounted to nearly 2 pints per cow per day, allowance being of course made for the original difference in the daily yield of the two lots of cows as shown in the preliminary trials. In Experiment C there was an increase of about $2\frac{1}{2}$ pints per cow per day in favour of the heavy ration. It is questionable whether this would be regarded in practice as a satisfactory and profitable increase, but in any case there can be little doubt that it is much smaller than many dairy farmers would expect from an extra 4 lb. a-day of concentrated food. It will be observed that the cows in Experiment C gave more milk than those in Experiment A, this being probably due in a great measure to the fact that they had not calved so long as those in Experiment A when the trial commenced. As is frequently the case, in both experiments each lot gave more milk in the morning than at noon and in the evening.

As showing a possible connection between the weather and the milk yield, it is interesting to note the variation in the total yields in Experiment A. The total yields, as shown in the table, decreased in both lots up to April 12, and a slightly further decrease occurred in Lot I. up to April 19. From then onwards there is a considerable increase in the daily yield up to the end of the experiment. According to notes taken at Offerton there was, from about the middle of April, a decided improvement in the weather, especially as regards temperature, and this

change for the better in the climatic conditions practically coincides with the improvement in the milk yield. These facts confirm the results given in the first article, and are worth recording as showing that there are causes which exert a decided influence upon the milk yield independently of the food supplied to the cows.

It may be concluded from the results given in the above tables that a heavy allowance of not less than 12 lb. of concentrated food per head per day may cause an increase in the milk yield as compared with a moderate allowance; but it is doubtful whether this increase is commensurate with the cost of the food, and there is, moreover, reason to believe that the increase is largely temporary. It seems fair to infer from these experiments that while a greater milk yield may at first be caused by increasing the amount of concentrated food in the ration, there is a limit, even when the cows are in full milk, beyond which the milk cannot be increased with profit. It was not the object of these experiments to determine what this limit should be, but it is tolerably certain that 12 lb. of concentrated food per 1000 lb. live-weight per day is excessive.

That a heavy allowance of concentrated food is largely temporary in its effects upon the milk yield is more clearly shown in the results of Experiment D, which are embodied in the next table. In this experiment the cows were kept under the same conditions exactly as in Experiment C, except for the fact that the rations were reversed as already shown.

EXPERIMENT D.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending:—		Lot I. 12 lb. concentrated food per 1000 lb. live-weight.				Lot II. 8 lb. concentrated food per 1000 lb. live-weight.			
		Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total.
Feb.	7 . .	50.5	31	24	105.5	57	33.5	29	119.5
"	14 . .	57	35	28	120	59	35.5	31	125.5
"	21 . .	59.5	36.5	29	125	56	35.5	28	119.5
"	28 . .	52	32	25	109	50	31	25.5	106.5
March	7 . .	49.5	30	25	104.5	50	31	26	107
"	14 . .	54	33	26	113	54	33.5	28	115.5
"	21 . .	52.5	33.5	25.5	111.5	53	33.5	27	113.5
"	28 . .	51.5	32	25	108.5	54	34	26	114
April	4 . .	48.5	33	23	104.5	54	33	25.5	112.5
"	11 . .	46	30.5	23.5	100	54	32.5	28	114.5
"	18 . .	46	30.5	23	99.5	51.5	32	25.5	109
"	25 . .	50	31.5	25.5	107	53	30.5	27	110.5
Average per lot per day		51.41	32.37	25.20	109	53.79	32.95	27.20	113.95

At the end of Experiment C, Lot I. had an average yield of over 119 pints per day. From that time onwards the cows in this lot received 4 lb. of concentrated food per 1000 lb. live-weight more than they did during the preceding three months, and yet this extra quantity does not cause any increase in the milk yield, except during the second and third weeks. The average at the end of Experiment D is 109 pints for this lot. It is true that as the lactation period advances, it must be expected that cows will usually give less milk, and this no doubt accounts largely for the falling off in the case of Lot I. in this test. What is of special interest here, however, is that when the cows begin to fall off in their milk yield as the lactation period advances, it does not answer any useful purpose to give them more food with a view of checking this falling off. That is clear in the case of Lot I. in Experiment D. These results, moreover, indicate that not only is a heavy allowance of concentrated food temporary in its effects, but also that as long as the cows are kept in a house it does not cause any material increase in the milk yield as compared with a moderate ration, except early in the lactation period.

What is abundantly clear here is the decided effect of grass-feeding upon the milk yield, independently of every other food given to the cows at the same time. Experiment B in the first series, as already shown, was conducted during the summer of 1904, when the cows were on grass. They were the same cows as in Experiment A, but Lot I. in this instance received a heavy allowance of concentrated food, and Lot II. only a moderate allowance. Lot I., thus, after receiving a *moderate* allowance of concentrated food inside, go out on grass and receive a *heavy* allowance, and Lot II. exactly the reverse. The results are given on Table on p. 122.

Taking the final averages, it will be seen that Lot II. gave more milk on 4 lb. of concentrated food per cow per day than Lot I. did on 8 lb., and that this was the better lot throughout, both in Experiment A and Experiment B, irrespective of the amount of concentrated food supplied in the daily ration. As compared with the average results at the end of Experiment A, *both* lots in Experiment B improved considerably at first. Had the improvement been in Lot I. alone, it would have been more or less decisive evidence in favour of the heavy ration of concentrated food. As it is, we can only conclude that the change from stall- to grass-feeding is largely responsible for the improvement during the first half of Experiment B. It is interesting to observe that only on five occasions out of twelve is the weekly average of Lot I. above that of Lot II., and even on these occasions the difference is generally small. It is true that there was a great improvement in Lot I. in Experiment B as

compared with Experiment A, but it must be observed that this improvement is not maintained, for in the second half of the experiment, from July 20 to August 24, there is a serious falling off in this lot.

EXPERIMENT B.

QUANTITY OF MILK IN PINTS PER LOT PER DAY
FOR 12 WEEKS.

Week ending:—		Lot. I 8 lb. concentrated food.				Lot II. 4 lb. concentrated food.			
		Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total.
June	8 . .	54.8	33	29.6	117.4	54.6	33.5	30	118.1
"	15 . .	54.6	33	28.2	115.8	53.1	33.2	30	116.3
"	22 . .	55.7	34.7	29.6	120	53	33	29	115
"	29 . .	54	33	28	115	51	32.6	29	113.6
July	6 . .	55	33.7	27	115.7	53	34	29	116
"	13 . .	53	32	27	112	50	31	28	109
"	20 . .	50	29	25.5	104.5	47	29	26	102
"	27 . .	46	28.4	24.4	98.8	44	29	25	98
August	3 . .	42.7	26	21	89.7	42.6	26	24.5	93.1
"	10 . .	41	24.8	20.5	86.3	42.5	26.3	23.8	92.6
"	17 . .	38.5	24	20	82.5	42.9	27.2	23.7	93.8
"	24 . .	37	23	20	80	41.6	26	24	91.6
Average per lot		48.52	29.55	25.06	103.14	47.94	30.14	26.83	104.92

Effect on the Quality.

Attention will be directed chiefly in this connection to the effect of heavy and moderate allowances respectively of concentrated food on the amount of butter-fat in the milk, this being, as a rule, much more variable than the other solid constituents. The following table, giving the results of Experiment A, will be of interest as showing not only how the butter-fat may vary from week to week, but also how uncertain it is that the quality of milk may be improved by giving the cows more concentrated food. The average butter-fat in the total daily yield of milk is calculated in the following tables from the morning, noon, and evening averages for the whole period of the experiment, and allowance is, of course, made for the difference in the average yield of milk, morning, noon, and evening, for the same period:—

EXPERIMENT A.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending :—	Lot I. 8 lb. concentrated food.			Lot II. 12 lb. concentrated food.		
	Morning.	Noon.	Evening.	Morning	Noon.	Evening.
February 16 . . .	2.83	3.97	3.92	2.50	3.60	3.50
" 23 . . .	2.84	3.87	3.94	2.33	3.50	3.61
March 1 . . .	2.92	3.95	4.16	2.57	3.60	3.90
" 8 . . .	3.06	4.00	4.00	2.60	3.60	3.70
" 15 . . .	3.13	3.90	3.60	2.50	3.60	3.50
" 22 . . .	3.00	4.00	4.00	2.50	3.70	3.60
" 29 . . .	3.00	3.90	4.00	2.60	3.80	3.70
April 5 . . .	3.00	3.90	4.00	2.60	3.90	3.80
" 12 . . .	2.90	3.80	3.90	2.50	3.70	3.60
" 19 . . .	3.00	4.10	3.90	2.60	3.80	3.60
" 26 . . .	3.00	4.00	3.70	2.70	3.70	3.60
May 3 . . .	3.00	3.90	3.70	2.70	3.80	3.50
Average . . .	2.97	3.94	3.90	2.57	3.69	3.63

General average for day's milk : Lot I., 3.48 ; Lot II., 3.16.

Total butter-fat per day : Lot I., 4.24 lb. ; Lot II., 4.58 lb.

These figures show that Lot I. gave milk which was considerably richer in butter-fat than did Lot II., and this in spite of the fact that it received 4 lb. per cow per day less concentrated food than the latter. It is true that in the preliminary trials Lot I. gave more butter-fat by .09 per cent than Lot II.; but during the period of the experiment, this difference was increased to .32 per cent in favour of the same lot. This result is totally unfavourable to the heavy ration from the point of view of the milk-seller, whose object it is to maintain the milk over the fat standard. It is slightly less so from the butter-maker's standpoint, but even here it has nothing to recommend it if we have regard to profit.

It is worthy of note that the morning milk of Lot II. was, on the weekly averages, invariably below the standard in butter-fat. The morning milk of both lots was below the standard on the average of 12 weeks, but Lot I. was by no means so consistently low as Lot II.

Effects on Cows on Grass.

When the cows used in Experiment A were turned out to grass, the milk of both lots improved, and especially that of Lot II. This lot on grass only received one-half the concen-

trated food of Lot I. The following table shows the effect of the feeding on the butter-fat during Experiment B:—

EXPERIMENT B.—COWS ON GRASS.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending:—			Lot I. 8 lb. concentrated food.			Lot II. 4 lb. concentrated food		
			Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
June	8	.	3.27	3.90	3.80	3.10	3.80	3.80
"	15	.	3.20	3.80	3.80	3.00	3.35	3.80
"	22	.	3.10	4.00	3.60	3.10	4.00	3.70
"	29	.	3.70	4.00	3.60	2.90	3.70	3.60
July	6	.	3.10	3.90	3.50	2.90	3.60	3.50
"	13	.	3.10	3.80	3.50	2.90	3.70	3.60
"	20	.	3.00	3.70	3.60	3.00	3.50	3.80
"	27	.	3.20	3.70	4.20	3.00	3.70	3.80
August	3	.	3.40	3.90	3.80	3.10	3.90	3.50
"	10	.	3.40	3.80	3.80	3.10	3.80	3.60
"	17	.	3.20	3.80	3.70	3.10	3.80	3.80
"	24	.	3.20	3.70	3.80	3.20	3.70	3.70
Average . . .			3.23	3.83	3.70	3.08	3.75	3.68

General average for day's milk: Lot I, 3.51; Lot II, 3.40.
Total butter-fat per day: Lot I., 4.57 lb.; Lot II., 4.60 lb.

There was during the summer, as already pointed out, an improvement in both lots. Lot I. was still, however, the better lot as regards the quality of the milk; and the inference to be drawn from these results, taking Experiments A and B together, is that the quality of milk, like the yield, is less dependent upon the feeding than on the character of the cows. The same lot of cows in these trials, both with the smaller allowance of concentrated food in the winter and the larger allowance in the summer, gave throughout, in spite of the change of food, the richer milk.

Second Series.

The results of the second series of experiments are given in the tables on next page (Experiments C and D).

In Experiment C both lots were again under the standard in the morning, but Lot II. gave slightly better milk on the average than did Lot I. The difference between the two lots, however, is so small in Experiment C that it may be neglected for practical purposes, and is in no way sufficient to prove the superiority of the heavy ration over the moderate one. In Experiment D

EXPERIMENT C.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending:—	Lot I. 8 lb. concentrated food per 1000 lb. live-weight.			Lot II. 12 lb. concentrated food per 1000 lb. live-weight.		
	Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
November 7 . .	2.8	3.7	3.8	2.9	3.9	3.6
" 14 . .	2.8	3.8	3.8	2.9	3.7	3.5
" 21 . .	2.8	3.7	3.8	2.8	3.7	3.8
" 23 . .	2.9	3.7	3.8	2.9	3.8	3.6
December 5 . .	3.0	3.6	3.8	2.9	3.9	3.3
" 12 . .	2.9	3.6	3.7	2.9	3.8	3.6
" 19 . .	2.8	3.8	3.7	2.9	3.8	3.5
" 26 . .	2.9	3.7	3.7	3.0	4.0	3.4
January 2 . .	3.0	3.5	3.6	3.0	3.9	3.3
" 9 . .	2.9	3.6	3.6	3.0	3.7	3.2
" 16 . .	2.9	3.7	3.6	3.2	3.9	3.3
" 23 . .	2.9	3.7	3.6	3.0	3.8	3.3
Average . . .	2.88	3.59	3.70	2.95	3.82	3.45

General average for day's milk: Lot I., 3.28; Lot II., 3.31.

Total butter-fat per day: Lot I., 5.05 lb.; Lot II., 5.64 lb.

EXPERIMENT D.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending:—	Lot I. 12 lb. concentrated food per 1000 lb. live-weight.			Lot II. 8 lb. concentrated food per 1000 lb. live-weight.		
	Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
February 7 . .	3.2	3.7	3.9	3.2	3.9	3.3
" 14 . .	3.1	3.8	3.8	3.0	4.0	3.5
" 21 . .	2.9	3.9	3.4	2.9	4.0	3.4
" 28 . .	3.0	3.9	3.9	3.1	4.0	3.5
March 7 . .	3.1	3.9	4.0	3.1	3.9	3.3
" 14 . .	3.0	3.9	3.8	3.0	4.0	3.3
" 21 . .	3.1	3.8	3.8	3.2	4.0	3.5
" 28 . .	3.2	3.9	3.8	3.0	4.1	3.4
April 4 . .	3.5	3.7	4.0	3.3	3.9	3.9
" 11 . .	3.3	3.9	3.8	3.3	3.9	3.3
" 18 . .	3.2	4.0	3.7	3.3	4.0	3.5
" 25 . .	3.2	3.8	3.8	3.2	4.0	3.6
Average . . .	3.15	3.85	3.80	3.13	3.97	3.45

General average for day's milk: Lot I., 3.50; Lot II., 3.44.

Total butter-fat per day: Lot I., 4.92 lb.; Lot II., 5.06 lb.

the milk of *both lots* was considerably richer on the average than in the preceding experiment, with a small difference in favour of Lot I. It is worthy of note that the difference in percentage of butter-fat, on the average, between the two lots in Experiment D, when Lot I. received 4 lb. concentrated food per cow per day more than Lot II., was actually less than it was in the preliminary trials, when the two lots were fed exactly alike.

The "solids-not-fat" in milk do not vary very much as a rule. The average results in the experiments under consideration were as follows:—

AVERAGE PERCENTAGE OF SOLIDS-NOT-FAT IN MILK.

Lot I.					Lot II.				
M	N	E	Average daily.		M.	N.	E.	Average daily.	
Experiment A	9.09	9.08	9.17	9.1			8.87	8.82	
Experiment B	8.92	9.05	9.06	8.99	8.80	8	8.94	8.82	
Experiment C	8.80	8.99	8.96	8.8	8.78	9.03	8.98	8.8	
Experiment D	8.88	9.02	8.99	8.9		9.00	8.91	8.8	

Practically, the only difference of note in the experiments was in Experiments A and B, when Lot I. gave milk richer in solids-not-fat throughout than Lot II., which, as the reader will recollect, was also the case with the butter-fat. This was obviously due more to the character of the cows than the feeding.

Effects on Live-weight.

The effect of moderate and heavy rations on the live-weight of cows while giving milk is indicated in the following statement of the increase or decrease in the average live-weight of the cows in the experiment under notice:—

EFFECT OF RATIONS ON LIVE-WEIGHT.

Lot I.*			Lot II.*		
Experiment A	.	+ 32 lb. per cow.	+ 62 lb. per cow.		
Experiment B	.	+ 110 lb. "	+ 72 lb. "		
Experiment C	.	- 13 lb. "	+ 25 lb. "		
Experiment D	.	+ 66 lb. "	- 9 lb. "		

* Results of heavy rations in italics, light rations in ordinary type.

It will be seen that the greater increase in live-weight consistently followed the use of the heavier ration. Whether the

increase is a profitable one is a point with which we are at present not directly concerned. It should be pointed out that the average loss of 13 lb. per cow in the case of Lot I. in Experiment C was due to one cow almost entirely, as was also the loss of 9 lb. in Lot II. in Experiment D. Without this explanation these figures would be a little misleading.

II. THE USE OF CONCENTRATED FOOD ON PASTURE.

The experiments already described having shown that heavy allowances of concentrated food are not to be recommended on grounds of economy during the winter months, when the cows are indoors, the question arose whether it is advisable to give dairy cows much concentrated food when out at grass during the summer. It is a common practice amongst dairy farmers to give their cows a certain amount of cake and meal in addition to grass, unless the pasture is of the very best quality, with a view of either keeping up the yield of milk or of improving its quality. It appears to be assumed in most cases that this is a profitable course to follow. The results of Experiment B, already described, indicated that there might be some doubt on the point, and with a view of obtaining definite information on the matter, and to determine to what extent, if at all, it is profitable to hand-feed cows in the summer, a series of experiments was carried out at Offerton Hall during the summers of 1905 and 1906. As the results have a close connection with the preceding section of this article, they may be briefly described here. They will doubtless prove of interest to the reader.

Preliminary trials were conducted, to begin with, in each case, with the object of eliminating any cows which happened to be in any way irregular or abnormal, ten cows being finally selected for each experiment. These were divided, as in the previous trials, into two lots of five cows each, the cows in each lot being so arranged that the average yield of milk per day, and the percentage of butter-fat, were practically the same in each lot. The milk was sampled and tested exactly as in the previous experiments.

The present experiments continued for 12 weeks in 1905 and 10 weeks in 1906. With a view of showing the general effect on the milk of concentrated food consumed on grass, as well as of different quantities of the same food, the term of the experiment was in each season divided into two equal periods, the cows receiving concentrated food having their allowance doubled in the second half of the experiment, while the other lot of cows received no concentrated food at all throughout the experiment.

Both in 1905 and 1906 the two lots were fed as follow:—

FIRST PERIOD.

6 Weeks in 1905; 5 Weeks in 1906.

LOT I.	LOT II.
2 lb. maize meal.	
2 lb. Bombay cotton-cake.	Grass only.
2½ lb. straw chaff.	
Grass.	

SECOND PERIOD.

6 Weeks in 1905; 5 Weeks in 1906.

4 lb. maize meal.	
4 lb. Bombay cotton-cake.	Grass only.
3 lb. straw chaff.	
Grass.	

It will thus be seen that precisely the same plan was adopted in both years. The cows used in 1906 were all different, with the exception of two, from those used in 1905,—a fact which adds considerably to the value of the experiments as a whole. During the trials the cows grazed with the rest of the Offerton herd, the pasture being of average quality. The concentrated food and straw chaff given to Lot I. was made into "crowdy" as usual, and fed to the cows in this form twice a-day just before milking at noon and in the evening. The cows had access to water at all times, being out night and day except at milking-time.

For the sake of convenience, the 1905 experiment will be described as Experiment G, and that of 1906 as Experiment H. At the end of the preliminary trials the two lots of cows stood as follows:—

EXPERIMENT G, 1905.

	Average yield of milk per cow per day.	Per cent of butter-fat in daily yield.	Average live-weight.
Lot I. . . .	34.0 pints	3.40	1134 lb.
Lot II. . . .	34.4 pints	3.38	1103 lb.

EXPERIMENT H, 1906.

Lot I. . . .	30.2 pints	3.48	1018 lb.
Lot II. . . .	30.2 pints	3.46	1016 lb.

Experiment G continued from June 20 to September 12, 1905, and Experiment H from June 18 to August 27, 1906. In dealing with the results it will not be necessary to give the details here, and the averages for each period only will be shown.

Effect on the Yield.

The quantity of milk produced by the two lots in each experiment is shown in the following table. The reader will bear in mind that Lot I. received $\frac{1}{2}$ lb. concentrated food per head per day in the first half of each experiment, and 8 lb. in the second half, while Lot II. received none at all.

QUANTITY OF MILK IN PINTS PER LOT PER DAY.

EXPERIMENT G, 1905.

	Lot I.				Lot II.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total
Average for 1st 6 weeks	57.20	39.70	31.3	128.30	57.0	39.6	32.10	128.70
" 2nd 6 weeks	51.16	34.25	27.5	112.91	33.1	33.1	26.83	109.17
Average for 12 weeks	54.18	36.97	29.4	120.6	53.12	36.35	29.46	118.93

EXPERIMENT H, 1906.

Average for 1st 5 weeks	61.2	41.5	33.7	136.4	62.4	40.7	35.3	138.4
" 2nd 5 weeks	51.9	33.1	27.4	112.4	50.2	31.7	26.8	108.7
Average for 10 weeks	56.55	37.3	30.55	124.4	56.3	36.2	31.05	123.55

The similarity in the results in both experiments is remarkable, the figures for the second period in each case being almost identical. There was a falling off in both lots towards the end of each experiment, the drop being greater in Experiment H than in Experiment G. The striking feature of both the experiments is the closeness of the two lots of cows as regards their yield throughout. In Experiment G, taking the average yield for the whole period of the experiment, there was a difference only of slightly over $1\frac{1}{2}$ pints in favour of Lot I., in spite of the concentrated food supplied to it. Even in the second half of the experiment the difference was hardly what it should have been, having regard to the fact that Lot I. during this time received 8 lb. per head of cake and meal per day.

On the whole, therefore, there was only a very small advantage from using the concentrated food, and what advantage there was seems to have been confined to the last portion of the experiment. Experiment H confirms in a striking degree the

results of Experiment G. The difference between the two lots over the whole period was even less here than in the preceding case, and the general result is precisely the same as in 1905,—there was not sufficient difference to make the use of the concentrated food profitable. In this case, again, the chief difference occurred in the second half of the experiment. In the first half, Lot II. was on the average actually superior to Lot I. by about 2 pints per day, although it was Lot I. which received the cake and meal. The summer of 1906 was very dry, and it is surprising that the milk yield was not affected to a greater degree than it was. The sudden drop in the second half of Experiment H may possibly be due to this; but it is noteworthy that the drought, if this was the case, affected both lots alike.

The increasing of the allowance of concentrated food for Lot I. in the second half of the period was attended with much the same result in both experiments. In neither case did it increase the milk yield as compared with the first period, nor, indeed, did it prevent to any extent the falling off in the yield. In any case, it is probable that had Lot I. been kept on the original quantity of cake and meal throughout, it would have given equally good results. The loss financially was obviously greater owing to the increase in the food.

On the financial aspect of the question the two experiments are in striking agreement, as they are on other points. The milk of Lot I. over the whole period in each experiment was produced at practically double the cost of that of Lot II., the selling price of the milk being the same, of course, in both cases. With the slight difference in the yield of the two lots, a very simple calculation will show the reader how unprofitable Lot I. in each experiment has been when compared with Lot II.

It is possible that the results might have been different had some other kind of concentrated food been used, and if the experiments had been commenced earlier in the season. As regards the former point, it may be pointed out that the food used was of a kind which is usually employed in practice during the summer, and there is no reason to believe that from any other food of a similar composition the results would have differed much from those obtained in the present experiments.

On some points the results of these trials might have been anticipated in view of what had occurred in previous experiments. But on the main point at issue—viz., the effect on the yield of a daily allowance of cake and meal when cows are on pasture—the results will probably appear remarkable to the majority of dairy farmers. The care with which the experiments were conducted, however, and the striking agreement between the results in both seasons, justify the conclusion that under conditions similar to those under which these experiments were conducted, much needless expense is incurred in

connection with the feeding of dairy cows during the summer months, and that many dairy farmers might modify their practice with material advantage to themselves.

Effect on the Quality.

The effect of the two systems of feeding on the percentage of butter-fat in the milk is shown in the following tables:—

PERCENTAGE OF BUTTER-FAT IN MILK.

EXPERIMENT G, 1905.

	Lot I.			Lot II.		
	Morn.	Noon.	Even.	Morn.	Noon.	Even.
Average for first 6 weeks . . .	3.25	3.78	3.71	3.3	4.00	3.58
" second 6 weeks . . .	3.20	3.70	3.86	3.2	3.96	3.76
Average for 12 weeks . . .	3.22	3.74	3.73	3.25	3.98	3.67
Times under standard . . .	6			3		
Highest	3.8	4.5	4.4	3.7	4.5	4.2
Lowest	2.8	3.0	3.1	2.8	3.6	3.3

Average percentage in total daily yield, {	1st period	Lot I.	Lot II
	2nd period	3.52	3.58
		3.51	3.56

EXPERIMENT H, 1906.

Average for first 5 weeks . . .	3.00	3.64	3.74	3.06	3.70	3.76
" second 5 weeks . . .	3.08	3.58	3.78	3.10	3.92	3.84
Average for 10 weeks . . .	3.04	3.61	3.76	3.08	3.81	3.81
Times under standard . . .	21			18		
Highest	3.4	4.2	4.2	3.4	4.4	4.4
Lowest	2.6	3.0	3.3	2.7	3.4	3.2

Average percentage in total daily yield, {	1st period	Lot I	Lot II
	2nd period	3.37	3.43
		3.39	3.52

The average percentage of butter-fat was so similar in the two lots, and the agreement between the two experiments so close, that it seems hardly necessary to make much comment on the above table. It is somewhat curious that the milk of Lot II. was on the whole richer in butter-fat than that of Lot I. in both experiments, although in the preliminary trials the slight difference in the butter-fat was in favour of Lot I.

The reader will observe the number of times the morning milk was under the 3 per cent standard in each lot, and it is an interesting fact that Lot I. was in both experiments the worse in this respect.

It is perfectly clear that the concentrated food supplied to Lot I. had practically no effect on the butter-fat. It certainly caused no improvement, but whether it actually reduced the percentage there is perhaps not sufficient evidence to show. These results confirm on this point previous experiments carried out under different conditions.

The "solids-not-fat" in the milk of the two lots in each experiment are shown in the table below.

PERCENTAGE OF "SOLIDS-NOT-FAT" IN MILK.

EXPERIMENT G, 1905.

	Lot I.			Lot II.		
	Morn	Noon	Even	Morn	Noon	Even
Average for first 6 weeks . . .	8.56	8.55	8.51	8.56	8.51	8.50
" second 6 weeks . . .	8.51	9.50	8.55	8.56	8.46	8.55
Average for 12 weeks . . .	8.53	8.52	8.53	8.56	8.48	8.52
Times under standard . . .	18	31	28	24	28	20
Highest	9.1	9.2	9.0	9.2	9.1	8.9
Lowest	8.1	7.9	7.9	7.9	8.0	8.0

EXPERIMENT H, 1906.

Average for first 5 weeks . . .	8.74	8.66	8.74	8.78	8.76	8.88
" second 5 weeks . . .	8.70	8.66	8.72	8.80	8.74	8.78
Average for 10 weeks . . .	8.72	8.66	8.73	8.79	8.75	8.83
Times under standard . . .	8	8	4	7	6	1
Highest	9.4	9.1	9.1	9.3	9.2	9.2
Lowest	8.2	8.3	8.2	7.9	8.3	8.4

The "solids-not-fat" were considerably lower on the average in Experiment G than in Experiment H, and much less uniform. The number of times the milk was under the standard of 8.5 per cent in individual milkings in Experiment G was truly remarkable, and it is very difficult to ascribe any particular cause for this. There was a very close agreement between the two experiments, and the results taken as a whole clearly show that the quality of the milk was in no way improved by

the concentrated food supplied to Lot I.; and it would appear inadvisable, as far as this point is concerned, to use any concentrated food of the description employed in these experiments on grass of average quality during the summer months.

Effect on Live-weight.

There is, finally, the effect of the two systems of feeding on the live-weight of the cows. The fluctuation in the average live-weight per cow in each lot is shown below:—

AVERAGE LIVE-WEIGHT IN LB. PER COW FOR EACH LOT.
EXPERIMENT G, 1905.

	Commencement.	Aug. 1.	Sept. 13.	Gain (+) or loss (-) over whole period.
Lot I. . .	1134	1141	1162	+28
Lot II. . .	1103	1092	1092	-11

EXPERIMENT H, 1906.

	Commencement.	July 23.	Aug. 27.	Gain or loss over whole period.
Lot I. . .	1086	1069	1012	-74
Lot II. . .	1122	1117	1103	-19

In Experiment G the concentrated food caused an increase in the average live-weight in the cows in Lot I., the increase being greatest in the second six weeks, when the double quantity of cake and meal was supplied. When it is considered, however, that this lot did not produce much more milk than Lot II., the actual live-weight gain is very small. The comparatively small loss in the case of Lot II. occurred during the first half of the experiment. During the second half three out of the five cows actually gained in weight, and the loss in the average weight is entirely due to one cow, No. 93. The gain in the average weight in Lot I. is also largely due to one cow, No. 91. If these two cows were left out, there would have been very little difference in the average live-weight of the cows at the end. Even as it is, the gain in Lot I. may hardly be regarded as a profitable one.

In Experiment H both lots lost weight on the average, the

loss being serious in Lot I. It should be explained that the loss in this case, again, was very largely due to two cows, Nos. 98 and 115, which, for some reason or other not apparent, lost 63 lb. and 105 lb. respectively during the second half of the experiment.

It is obvious from these results that concentrated food which is not paid for in the milk yield is not always recovered in the form of live-weight in the case of dairy cows. In neither of the two experiments described here did the cake and meal produce on the average any appreciable benefit, whether as regards the yield and quality of the milk or the live-weight of the cows. Profit was in both cases out of the question. Indeed, there was in this respect a serious loss, which was even greater in Experiment H than in Experiment G.

SUMMARY.

To enable the reader to compare the results of these experiments, and to supply him in a concise form with the chief data upon which the conclusions are based, the following summary will be found useful:—

First Series of Experiments.

PRELIMINARY TRIALS.—SET OF 10 COWS IN TWO LOTS OF 5.

	Milk per cow per day.	fat.	Average live-weight per cow.
Lot I. . .	23.47 pints	3.45	1064 lb.
Lot II. . .	25.04 pints	3.36	1068 lb.

EXPERIMENT A.

12 Weeks, Feb. 8–May 3, 1904.

	Average of concentrated food per cow per day.	Average milk per cow per day.	fat.	Total butter-fat per cow per day.	S.N.F.	Gain (+) or loss (-) in average live-weight per cow.
Lot I. . .	8 lb.	18.92 pints	3.43	0.85 lb.	9.10	+32 lb.
Lot II. . .	12 lb.	22.46 pints	3.16	0.91 lb.	8.82	+62 lb.

EXPERIMENT B.

12 Weeks, June 1–Aug. 24, 1904.

Same cows on grass. Rations reversed.

Lot I. . .	8 lb.	20.63 pints	3.51	0.93 lb.	8.99	+110.2 lb.
Lot II. . .	4 lb.	20.98 pints	3.40	0.92 lb.	8.82	+72 lb.

Second Series of Experiments.

PRELIMINARY TRIALS.—FRESH SET OF 10 COWS.

		Milk per cow per day	fat	Average live-weight per cow.
Lot I.	.	27.4 pints	3.32	1134 lb.
Lot II.	.	27.6 pints	3.23	1195 lb.

EXPERIMENT C.

12 Weeks, Nov. 1, 1904–Jan. 23, 1905.

	Amount of concentrated food per cow per day.	Average milk per cow per day	fat.	Total butter-fat per cow per day.	S.N.F.	Gain (–) or loss (–) in average live-weight per cow.
Lot I.	8 lb. per 1000 lb. L.W.	23.56 pints	3.28	1.01 lb.	8.8	–13 lb.
Lot II.	12 lb. per 1000 lb. L.W.	26.43 pints	3.31	1.13 lb.	8.8	–25 lb.

EXPERIMENT D.

12 Weeks, Feb. 1–April 25, 1905.

Same cows. Rations reversed.

Lot I.	12 lb. per 1000 lb. L.W.	21.80 pints	3.50	0.98 lb.	8.9	+66 lb.
Lot II.	8 lb. per 1000 lb. L.W.	22.79 pints	3.44	1.01 lb.	8.8	–9 lb.

Cows on Pasture.

EXPERIMENT G, 1905.

SET OF 10 COWS IN TWO LOTS OF 5.

PRELIMINARY TRIALS.

		Milk per cow per day.	fat.	Average live-weight per cow.
Lot I.	.	34 pints	3.40	1134 lb.
Lot II.	.	33.4 pints	3.38	1103 lb.

RESULTS FOR FIRST 6 WEEKS, June 21-Aug. 1.

	Food per day	Average milk of milk per cow per day	fat	S.N.F.	Gain (+) or loss (-) in average live-weight per cow
Lot I.	4 lb.	25.66 pints	3.52	8.54	+ 7 lb.
Lot II.	None	25.74 pints	3.58	8.52	- 11 lb.

SECOND 6 WEEKS, Aug. 2-Sept. 12

Lot I.	6 lb.	22.53 pints	3.51	8.52	+ 21 lb.
Lot II.	None	21.93 pints	3.56	8.52	..

EXPERIMENT H, 1906.

PRELIMINARY TRIALS.

	Milk per cow per day	% fat.	Average live-weight per cow
Lot I.	30.2 pints	3.48	1086 lb.
Lot II.	30.2 pints	3.46	1122 lb.

RESULTS FOR FIRST 5 WEEKS, June 19-July 23.

Lot I.	4 lb.	27.3 pints	3.37	8.71	- 17 lb.
Lot II.	None	27.7 pints	3.43	8.81	- 5 lb.

SECOND 5 WEEKS, July 24-Aug. 27.

Lot I.	8 lb.	22.5 pints	3.39	8.69	- 57 lb.
Lot II.	None	21.7 pints	3.52	8.77	- 14 lb.

GENERAL CONCLUSIONS.

House-fed Cows.

From the results obtained in the first and second sets of experiments (Experiments A, B, C, and D) the following general conclusions may be drawn:—

1. A heavy allowance of concentrated food, of not less than 12 lb. per cow per day, may cause an increase in the milk yield as compared with a more moderate allowance.

2. The increase thus caused will be in a great measure of a temporary character, and is much more marked early in the lactation period than it is as the period advances.

3. Although a heavy ration will produce more milk at first than a moderate ration, there is a limit beyond which the ration cannot be increased with profit.

4. An allowance of as much as 12 lb. per 1000 lb. live-weight per day may, as a rule, be regarded as excessive, having regard to profit.

5. When cows begin to fall off in their yield as the lactation period advances, an increase in the concentrated food does not check this falling off except temporarily; and conversely, a decrease in the concentrated food under similar conditions does not cause a more rapid falling off in the yield.

6. With regard to the butter-fat in milk, it is doubtful, provided the cows receive a sufficient amount of concentrated food to keep them in good condition, whether an additional amount in the ration has any appreciable influence in increasing the percentage. The same applies even in a greater degree to the "solids-not-fat."

7. The morning milk of an average lot of cows, even when well fed, may frequently be under the standard in butter-fat during the earlier part of the lactation period when the day interval between milkings is the shorter, and an augmented ration of concentrated food causes but little improvement in this respect.

8. A heavy ration causes a greater increase in the average live-weight of the cows than a moderate one, the gain being greatest towards the end of the lactation period, when the cows are falling off in yield.

9. The character of the cows has much more to do with determining the quantity and quality of the milk than the actual amount of concentrated food in the daily ration so long as the cows receive enough to keep them in a thriving condition, and it is a mistake to suppose that, once this limit is reached, an increase in the concentrated food results in a corresponding permanent increase and improvement in the milk. It may indeed have the opposite effect.

10. Finally, as the results obtained in these experiments indicate that a heavier ration of concentrated food may be employed with profit early in the lactation period than can be done as the period advances, it seems probable that the most economical method of feeding dairy cows, having regard only to the milk produced, would be to make the ration largely dependent upon the amount of milk the cows yield. In other words, the full ration should be given when the cows are in full milk, and as they fall off in yield the allowance should be

gradually curtailed until, at the end of the lactation period, it reaches the minimum necessary to keep the cows in good condition. It is difficult to say at present what quantity of concentrated food constitutes a full ration, further than that, having regard to profit, it is certain that it should not, on the average, reach as much as 12 lb. per 1000 lb. live-weight per day.

Cows on Pasture.

From the results of Experiments G and H on the influence of different quantities of concentrated food for cows on pasture the following general conclusions are drawn:—

1. The advantage of giving dairy cows which are out on grass during the summer months a supplementary ration of from 4 to 8 lb. of concentrated food, consisting of Bombay cake and maize meal, is exceedingly small as regards the yield of milk, provided the pasture is of average quality.

2. Any benefit derived from concentrated food so used is only shown towards the end of the season, when the pasture is beginning to get stale and the nights become cold.

3. It is doubtful, having regard to profit, whether any concentrated food of this description should be used at all on grass during the summer, if the pasture is of average quality, the season normal, and the cows in a healthy and thriving condition.

4. To increase the concentrated food as the season advances is not to be recommended, as it does not, except temporarily, cause an increase in the milk, or even check the fall in the yield, which always takes place as the lactation period advances.

5. As regards the quality of the milk, there does not appear to be any advantage whatever, on the average, in using on grass concentrated food of the kind employed in these experiments.

6. Concentrated food supplied to cows on grass does not necessarily cause an increase in the live-weight of the cows, even when it produces no effect on the milk yield.

7. These experiments confirm, on the whole, previous experiments carried out at Offerton, as regards the effect generally of an extra allowance of food on the quantity and quality of milk, and show that, on the average, provided the cows receive enough food to keep them in a thriving condition, there is no advantage, having regard to profit, in giving them more than this. Presumably, when cows are fed on fairly good grass in the summer, they do not require much additional artificial food, and when such is supplied, it is at a loss as far as the milk yield is concerned. Confirmation is also given to the conclusion previously arrived at, that no addition to the food could prevent, except temporarily, the falling-off in the milk yield as the lactation period advances.

POISONOUS BEANS.

By JAMES HENDRICK, B.Sc., F.I.C., Chemist to the Society.

IN my report on Analyses made for Members during 1905 (Fifth Series, vol. xviii. p. 79), I commented shortly on a sample of poisonous bean-meal, described as prepared from Rangoon beans, which was sent to me by a member. It happened that serious outbreaks of poisoning of cattle occurred about the same time in various parts of Scotland, and some investigation was made into the origin and nature of the beans which were believed to be responsible for the trouble. The matter was one of widespread importance, and the Board of Agriculture also held an inquiry and published the results in their Journal (vol. xii. p. 742, and vol. xiii. p. 52). The chemistry of the subject was likewise investigated by Messrs R. R. Tatlock and R. T. Thomson, who published a paper "On the Presence and Detection of Cyanogen in Java, Burma, and Haricot Beans" in 'The Analyst' (vol. xxxi. p. 249).

When the outbreaks of poisoning first occurred, though they were traced to the use of certain beans, it was not known to what particular poison they were due. It was soon shown, however, that the poisoning was caused by hydrocyanic or prussic acid, that the beans which caused it yielded considerable quantities of this poison when soaked in water, and that these beans all came from Java.

The presence of a substance which yielded prussic acid was noticed in beans of the kidney type about 1900 by M. Bonamé, Director of the Agricultural Station at Mauritius. Professor Wyndham B. Dunstan of the Imperial Institute obtained samples of these beans from Mauritius, and thoroughly investigated them.¹ He showed that the prussic acid was yielded by a glucoside, which when the beans are moistened breaks up into prussic acid and other substances, under the influence of a ferment, known as an enzyme, which is present in the beans. He showed that the beans from Mauritius were capable of yielding considerable quantities of prussic acid in this way, and he named the glucoside which yields the prussic acid *Phaseolunatin*, as it was found in a variety of bean known as *Phaseolus lunatus*. He also showed that a very small amount of the same glucoside was to be found in Rangoon or Burma beans, which are largely imported into this country as food, and which are also a variety of *Phaseolus lunatus*.

Nevertheless, until the outbreaks of poisoning in 1905 and

¹ Proceedings Royal Society, 1903, vol. lxxii. p. 285.

1906, it was not generally known to merchants, farmers, analysts, or veterinary surgeons that prussic acid poisoning might be caused by beans of the kidney or *Phaseolus* type. Even months after the presence of this glucoside in Java beans had been clearly shown, merchants were still of opinion that the poisoning was caused by some foreign poisonous seed, or other poisonous substance which was present accidentally among the beans, and not by a constituent of the beans themselves.

During 1905 there was a scarcity of beans, owing to a partial failure of the supply of Smyrna and other Mediterranean beans, and bean-meal rose to a high price. In consequence, merchants began to bring in beans from unusual sources. For many years past Rangoon or Burma beans have been used in very large quantities in this country without any evil results having been reported. By the middle of 1905 small lots of the somewhat similar beans from Java began to be imported from Antwerp. These beans did not come direct into Britain, but were brought to Europe by Dutch merchants, and then brought to Britain from Antwerp. The small lots which were brought in at first were disposed of either mixed with other meals or pure, without any evil results being noticed or any suspicion being aroused. Consequently, large consignments of hundreds of tons of these beans were brought into Glasgow in December, and shortly afterwards the poisoning cases began. It is stated that about this time, but before any poisoning cases were reported in Scotland, rumours were heard from Antwerp of poisoning cases having arisen there from workmen eating the beans. It is also stated that the merchants who first imported these beans into Scotland were warned by the Dutch importers that the beans required to be boiled twice in water and the water poured off. These warnings, however, appear to have been disregarded.

When I began to make inquiries about these beans, I was informed by certain large dealers that poisoning cases only occurred with those parcels of beans which were ground and put into consumption without having been washed. I therefore made arrangements to see the process of washing carried out, and to obtain samples of the same beans before and after washing. The process of washing removes much dirt from the surface of the beans, and also washes away many twigs, pieces of pod, and other light vegetable substances; but it does not alter in any essential way the beans themselves, and certainly cannot wash away any appreciable quantity of the poison. The beans were in the washing water, which was at a temperature of about 100° Fahr., for just about two minutes. The samples taken before and after washing yielded practically the same amount of prussic acid.

I obtained clear evidence that for every case of poisoning

which occurred many tons of the beans were consumed without any evil effects being noticed. A quantity of beans taken from the same parcel which had caused the deaths of a number of cattle was fed to a dairy herd on another farm for several weeks, but not a case of poisoning occurred, and I was informed that no evil results at all were noticed. It was therefore strongly asserted that some of the bags of beans must contain poisonous seeds other than beans, and that the sporadic nature of the outbreaks was to be explained by the presence of these. In order to satisfy myself on this point, I examined samples of practically all the consignments of beans which came into Glasgow in the latter part of 1905. Through the kindness of certain of the merchants, I was enabled to go through many bags of beans belonging to the same parcel as those which had caused some of the worst cases of poisoning. No seed other than the beans themselves was found; and with the exception of pieces of pod leaf and twig, no foreign vegetable matters were present. There does not appear to be any reason to suppose that the poisoning was caused by anything but the beans themselves. Some other explanation must be sought for the fact that the beans did not in every case cause poisoning.

Java beans are of all colours—white, grey, red, brown, purple, mottled, and black. The colour varies greatly in the same consignment. In one bag black will be the prevailing colour, in another white; but, generally speaking, the majority of the beans are red, brown, and mottled. It is stated by Professor Dunstan that Burma beans and Java beans are both *Phaseolus lunatus*, but that the Burma beans represent a cultivated variety, while the Java beans are uncultivated. He also states that the wild beans contain a large amount of the cyanogenetic or prussic-acid-yielding glucoside, while the cultivated varieties yield very little.

Some samples of Burma or Rangoon beans which I examined consisted of mottled, pink, or red beans, which are rather smaller than Java beans. These are known in commerce as red Burma beans. Two samples of these which I examined yielded 0.012 and 0.008 per cent of hydrocyanic acid respectively. The samples of Java beans which I tested yielded from 0.081 to 0.216 per cent. The Java beans, therefore, contain enormously greater quantities of prussic acid than the Burma beans. At the same time the Burma beans, thousands of tons of which have been consumed in Scotland without injury being reported, are by no means free from the poison.

I endeavoured to cultivate samples of Java and Burma beans. My early attempts were made in the open and in a cool greenhouse. These attempts were failures. Trials were then made for me by Messrs Ben Reid & Co., Limited, Aberdeen, who grew them successfully in a greenhouse with plenty of heat. These

plants were not started, however, till late in the season; and though they grew several feet high, they did not flower. In appearance and habit the plants closely resemble ordinary runner beans. The Java and Burma bean plants were indistinguishable from one another.

A number of samples of Java beans from different consignments and of different colours were tested for hydrocyanic acid. If the ground beans are merely moistened and allowed to stand for some time in a closed vessel the characteristic smell of hydrocyanic acid is quite distinct. I found no difficulty in detecting it in this way in samples either of Java or Burma beans. On the other hand, no odour of hydrocyanic acid can be felt if English, Smyrna, or Morocco beans are tested in this way.

In order to estimate the amount of hydrocyanic acid, Professor Dunstan recommends that the glucoside should be extracted with alcohol, broken up by mineral acid, and the prussic acid distilled off and estimated. I found it very much simpler and equally effective to soak the beans, ground to a fine meal, in water from twelve to twenty-four hours, and then directly distil off the prussic acid in the presence of mineral acid. All my estimations of the quantity of prussic acid were made in this way. As already stated, the lowest amount of the poison found in any sample was 0.081 per cent, while one sample contained as much as 0.216 per cent. About $2\frac{1}{2}$ ounces of the former sample, or 1 ounce of the latter, would supply a dose of hydrocyanic acid sufficient to kill a man. Samples of English and Smyrna beans which were treated in the same way as the above yielded no hydrocyanic acid. English and Smyrna beans do not belong to the same species at all as Java and Burma beans. They are varieties of *Vicia faba*, or broad beans, while the Java and Burma beans are varieties of the haricot or kidney bean family.

It has been stated by Professor Dunstan that among beans of *Phaseolus lunatus* those of white colour do not yield prussic acid, and that, generally speaking, the darker coloured beans yield more of the acid than lighter coloured ones. I did not find this to be the case. A sample which consisted entirely of white or light-coloured beans yielded 0.143 per cent of hydrocyanic acid, while another which consisted largely of black beans yielded 0.088 per cent. The sample which yielded the largest percentage of acid, 0.216 per cent, consisted largely of dark-brown, purple, and mottled beans. Similar results were found by Tatlock and Thomson. All the different colours of Java beans appear to yield hydrocyanic acid freely, and one cannot state that one colour yields more than another.¹

Analyses made since the above was written confirm the presence of prussic acid in White Java and Rangoon Beans.

The conventional food analysis of these beans does not at all indicate their poisonous nature. No doubt, they were analysed in the ordinary way when first imported, but it was not till specially tested for hydrocyanic acid that anything as to their poisonous nature was revealed. The ordinary analysis, however, indicates that they are not nearly so rich in albuminoids as beans of the broad-bean type. The following table gives analyses of samples of beans of various kinds which were made in my laboratory in connection with this inquiry.

COMPOSITION OF BEANS.

	ENGLISH BEANS	SMYRNA BEANS.	JAVA BEANS		RED BURMA BEANS
			No. 1.	No. 2.	
	per cent.	per cent	per cent.	per cent	per cent.
Moisture	5.96	3.78	12.68	13.26	11.82
Oil	1.78	1.22	1.03	1.04	1.35
Albuminoids ¹	28.50	29.43	18.81	19.56	21.13
Soluble carbohydrates (by difference)	56.41	56.82	59.13	58.39	58.43
Fibre	4.21	5.67	4.18	3.93	3.86
Ash ²	3.14	3.08	4.17	3.82	3.41
	100.00	100.00	100.00	100.00	100.00
Containing—					
¹ Nitrogen	4.56	4.71	3.01	3.13	3.38
² Silicious matter	0.45	0.07	0.02	0.17	0.22
Hydrocyanic acid	absent	absent	0.143	0.204	0.0124

It is said that poisonous cassava, which, like Java beans, owes its poisonous nature to the presence of a cyanogenetic glucoside, can be made safe to eat by boiling it in water and pouring off the water. So in the case of these beans the original importers are said to have been warned that they should be boiled twice in water and the water poured away. In order to test this I boiled some whole beans, from sample No. 1 in the table above, in water, for half an hour. The water was then poured off and the beans washed. The water and washings yielded hydrocyanic acid equal to 0.098 per cent of the original weight of the beans. More water was then added, and the beans again boiled for half an hour. The water was again poured off and the beans washed with boiling water. This time the water and washings yielded hydrocyanic acid equal to 0.043 per cent,—or the total from the two boilings was 0.141 per cent. As the beans were originally found to contain 0.143 per cent, practically all the hydrocyanic acid was removed by boiling twice.

In order to confirm this, the beans themselves were then tested for hydrocyanic acid, but only small traces were found. In the water in which the beans had been boiled free hydrocyanic acid was not found, but only the glucoside which yielded the acid on treatment. It is only when the beans are soaked in cold water that the prussic acid is developed. If boiled in water, the enzyme is destroyed and the acid is not developed, but the boiling water extracts the glucoside itself.

It may be concluded, then, that if these beans are thoroughly boiled in water, and the water poured off, the poison will be largely removed; and if the boiling be repeated twice, the beans will be rendered harmless.

In other experiments it was shown that if the beans or bean-meal were soaked in boiling water, prussic acid was not developed, even when the material was cooled and allowed to stand. This is due to the fact that the boiling water destroys the enzyme in the beans, and without the enzyme the glucoside is not broken up. That the glucoside was still there, and could still liberate hydrocyanic acid, was shown by adding some sulphuric acid and boiling some of the material. The sulphuric acid then attacked the glucoside and liberated hydrocyanic acid.

It has already been mentioned that in many cases Java bean-meal was fed to animals without causing any symptoms of poisoning. We do not know that the glucoside itself is poisonous apart from the hydrocyanic acid which it gives rise to. Hydrocyanic acid does not exist ready formed in the beans, but is only formed by the action of the enzyme, or by boiling with a mineral acid. If, therefore, the enzyme is destroyed by heat or otherwise, hydrocyanic acid will not be produced in the beans, and poisoning may not occur. At the same time, the danger of using these beans as food is so great that in the present state of our knowledge they should be entirely avoided. Though it has not been shown that any extensive outbreaks of poisoning have been caused by Burma or Rangoon beans, they also contain the poison, and it is to be supposed that their action is to some extent injurious. In the present state of uncertainty, therefore, and until clear proof is obtained that the glucoside present in these beans does not render them in any way harmful, they should be avoided.

Finally, what has taken place in the case of these beans illustrates the necessity for the Board of Agriculture, or some other authority, having powers to exercise supervision over new products introduced into the country as feeding-stuffs for cattle, and to make inquiries and investigations into their nature and origin, and if it is found necessary, to prohibit their sale altogether.

ANALYSES FOR MEMBERS DURING 1906.

By JAMES HENDRICK, B.Sc., F.I.C., Chemist to the Society.

DURING the year 85 fertilisers, 34 feeding-stuffs, and 30 miscellaneous samples were sent for analysis by members of the Society. In addition, I received a number of communications asking for information on a variety of subjects.

In the case of the great majority of the samples submitted very little information is sent, so that it is impossible for me to tell whether the sample is up to any guarantee given, or is worth the price charged for it. The majority of the members who send samples probably wish the analysis merely for their own private information. Also they deal, generally speaking, with the better class of merchants, and are well able to tell for themselves if they are grossly overcharged.

As the Directors desire that the chemist should be able to give as much information and help as possible to those members who send samples for analysis, and as they also desire to gain information as to the nature and quality of manures, feeding-stuffs, and other articles sold to the members, a circular was prepared at their request, and copies of this are now sent to all members who submit samples for analysis. The circular asks members to inform the chemist, either when they submit the sample or after they receive the certificate of analysis, what was the guarantee, if any, under which the goods were sold, what was the price at which they were sold, and, generally, to give any information likely to be of assistance to the chemist in forming an opinion whether the article sampled was good of its kind, up to the guarantee on which it was sold, and worth the price charged for it. The circular also states that the Directors are anxious to take any steps in their power to expose the vendors of fraudulent and inferior goods, and look to the members to assist them in doing so by furnishing the information asked for above.

Ground Lime.

Last year I called attention to the inferior nature of much of the ground lime on the market, as indicated by the samples which pass through my hands. Though there is a distinct improvement in 1906 as compared with 1905, the majority of the samples received are not yet what they should be. It is generally held that a good sample of ground lime should contain at least 70 per cent of alkaline lime—that is, of lime in the forms

of oxide and hydrate of lime. Of 18 samples submitted for analysis by members only 5 contained over 70 per cent of alkaline lime, 7 contained between 60 and 70 per cent, 5 contained between 50 and 60 per cent, and one contained only 36.2 per cent. As a rule, either no guarantee was given with these limes, or I was not informed of the guarantee given. In every case in which I was informed, the lime fell seriously below the guarantee. One sample of ordinary lime shells was submitted for analysis and found to contain over 74 per cent of alkaline lime.

In spite of the representation of the Directors to the Board of Agriculture that lime, when sold as a fertiliser of the soil, should be included under the Fertilisers and Feeding Stuffs Act, as manures containing nitrogen, phosphates, and potash are, no special provision has been made for it under the new Act which came into force on January 1 of the present year. It is the more necessary, therefore, that those farmers who purchase ground lime should protect themselves by insisting on a guarantee of quality with each purchase, and by having samples analysed from time to time.

Fertilisers.

There were few of these which call for any special remark. One sample sold as pure dissolved bones consisted practically of a mixture of 40 per cent dissolved bones of ordinary quality, with 60 per cent of undissolved bones. The sample had the appearance of having been made by mixing undissolved bone meal with dissolved bones.

The cheapest potash manure per unit of potash is the substance somewhat unfortunately named potash manure salt, or 30 per cent potash salt. This article appears to be frequently invoiced and sold as sulphate of potash. In reality it consists of a low-grade muriate of potash. It is a pity it has not been given a name to indicate this fact. Sulphate of potash is the dearest potash manure per unit of potash, and it is preferred by many farmers—especially for potato growing—over all other potash compounds. Thirty per cent potash salt should not be sold as sulphate of potash, for it contains practically no sulphate at all, and has not the characteristic effects of sulphate. Those farmers who prefer sulphate of potash as a manure should see that the cheaper 30 per cent potash salt is not palmed off on them as sulphate.

One sample of turnip manure, of the price of which I was informed, was only worth about half the price which was charged for it.

Feeding Stuffs.

Five samples out of the 34 submitted were unsatisfactory in one way or another. A sample sent as linseed-cake contained a considerable admixture of starchy substances. One sample of composite cake was below the guarantee given with it, and another was of very poor quality. Under the new Fertilisers and Feeding Stuffs Act the vendors of artificially compounded foods are required to give a guarantee in the invoice of the oil and albuminoids present. These are the two most important and valuable constituents of feeding-stuffs. Unless there is a considerable percentage of these in a composite cake, it is not worth buying.

Home-grown oats of good quality will contain 6 to 7 per cent oil and 12 to 15 per cent albuminoids, and are in every other way a feeding-stuff of excellent quality. Money is thrown away in buying mixed cake at a price much higher than that at which home-grown oats are valued, unless it contains oil and albuminoids much in excess of those naturally contained in the corn. On the other hand, mixed cakes of excellent quality can be made—little, if any, inferior to linseed-cake in oil albuminoids and general feeding value—at a price considerably below that of high-class linseed-cake. It is particularly in the case of mixed or composite cakes that farmers require to look carefully into the composition and analysis; for some of those on the market are of little value, and are not worth the price charged for them.

A sample sold as maize meal was found to contain about 3 per cent of sawdust. Whether this had been accidentally or fraudulently mixed was not disclosed. A sample forwarded to me as ground oats was found to contain about 20 per cent of other cereals.

Three samples of turnips, one sample of cabbage, and one sample of sugar-beet are included under the feeding-stuffs.

SHEEP ON ARABLE FARMS.

By JAMES WYLLIE, Pathhead, Cockburnspath.

IN this paper, prepared primarily for students of agriculture, I do not insist upon any hard-and-fast system. I merely wish to give an account of particulars of management which I have come to consider the most profitable under the circumstances in which I am placed.

I occupy two farms in the adjoining counties of Berwick and East Lothian. As the one differs somewhat in character from the other, the management of the sheep stock on the two farms requires to be somewhat different, in order to suit, as far as possible, the special circumstances of each. One of the two farms, that in Berwickshire, is all arable and of fairly good soil. Part of the grass-land is allowed to lie only one year, and part for two years.

Sheep Stock on the Berwickshire Farm.

On this farm we keep only what is called a "flying stock" of sheep—that is to say, the sheep, whether bred on the place or bought in, are kept upon the farm for only one year or less.

In the month of September the ewe sales begin, when we lay in as many half-bred (Leicester-Cheviot) ewes as we calculate we may have grass for, so as they, with their lambs, may be sold fat next spring and summer. These ewes have already had three crops of lambs, at which age the store or breeding farmers usually dispose of them.

Four-crop ewes can be had at a slightly easier price, but as a rule the loss amongst that class is considerably heavier, and they are more difficult to fatten. I therefore prefer to buy only three-crop ewes.

Besides the half-bred ewes, there are other breeds to be had in our local markets at that time and later on, which are bought by farmers in the district, such as the pure Cheviot ewe, which is usually sold by the store farmer after four crops, also a comparatively few grey-faced (Leicester-blackfaced), which are for the most part four-crop ewes.

There are also blackfaced ewes, often of uncertain age, and sometimes a few lots of Oxford-Down and Suffolks. But, as I have already indicated, my experience has been very much confined to the half-bred ewe.

After reserving a certain proportion of the turnip crop for these bought-in ewes and for feeding cattle, we require to purchase more sheep to consume what extent of turnip we calculate we may still have available. For this purpose we lay in lambs, which we hope to buy at considerably less money than we obtained for the fat lambs sold. Special sales for lambs begin about the end of July, and continue from time to time for several months. We usually buy either the three-part-bred lambs shown at these sales—that is, lambs bred by a pure Border Leicester tup from a half-bred ewe—or lambs bred by an Oxford-Down or Suffolk tup from the same class of ewe. The two last breeds are known as Oxford-Down and Suffolk crosses respectively. Thus on the Berwickshire farm we have only a

"flying stock," consisting partly of bought-in three-crop ewes whose fourth crop of lambs are sold fat, and partly of bought-in lambs to feed on turnip.

Lambs suffering from "Orf."

It sometimes happens that a lot of lambs will arrive home from the market with a few of them showing symptoms of what is locally known as "orf." This is a disease of the skin showing raw blotches, chiefly affecting the feet about the coronet of the hoof, also the legs, generally extending to about the knee, and sometimes a few blotches may show on the face. If this trouble is not quickly noticed and treated at once, it may cause infinite trouble as well as serious loss of condition in those affected, and as it seems to be very infectious, any neglect at the early stage may end in nearly the whole lot becoming infected.

On noticing the first symptoms we at once walk the animals through a wooden trough, some 14 to 16 feet long, with strong arsenic water in it to the depth of 4 or 5 inches. This may require to be repeated once or twice at intervals of two or three days. This trough should be covered with a lockfast lid, as accidents have occurred through cattle getting at the liquid. If applied in time this treatment generally checks the trouble.

We have always at hand a quantity of a saturated solution of arsenic, which we make by boiling, for twenty minutes or so, equal quantities of arsenic and washing-soda in as little water as the mixture will dissolve in—say, 7 lb. arsenic and 7 lb. washing-soda to 13 galls. water. The boiling should be done in an open or airy place, so that the fumes of arsenic may not hurt the man stirring the material while it is boiling. In use we mix 1 measure of the above to 5 measures of water.

Sheep Stock on the East Lothian Farm.

The other farm referred to is situated in East Lothian, and differs from the first inasmuch as it is somewhat higher lying and of rather poorer soil. This farm includes a considerable proportion of permanent pasture,—some of this high-lying and comparatively poor, and some of it lower down and of better quality. On this farm we use the same class of sheep stock—the half-bred ewe, which we mate with a pure-bred Leicester tup, or sometimes with a pure Oxford-Down.

The Oxford-Down tups breed very good lambs for hogging—*i.e.*, for feeding off on turnip before they are a year old; at the same time it is generally allowed that breeding from these tups is harder upon the ewes than is breeding from the pure Leicester

tup, causing more weakening of constitution, and perhaps a slightly higher percentage of casualties at lambing-time. On the whole, I cannot say confidently, although I have used the Oxford against the Leicester for a number of years, that the Oxford is really more profitable than a well-bred Leicester tup, the progeny of which latter comes always well to the front whether as fat lambs or fat hoggets for the early market.

As this East Lothian farm includes a considerable proportion of permanent grass, as well as the usual rotation grasses of two years, and sometimes a field or two of three years old, we modify the management of the ewe stock to suit the circumstances so as to obtain the best advantage. For the older grasses we keep a stock of ewes of what is known as "regular ages," and this to the extent of half of the whole ewe stock on the farm. This half consists of—one-third bought-in gimmers to have their first crop of lambs; one-third young ewes—last year's gimmers—to have their second lamb; and one-third ewes—last year's young ewes—to have their third lamb. The progeny of this half of the ewe stock is mostly kept on for feeding, as hoggs, on turnip. The second half of the ewe stock is made up of—first, our own three-crop ewes, which are now transferred to the second half of the stock, in which they form about one-third of the necessary number; and, second, double this proportion of ewes of the same age, which we buy from the store farmers who, as a rule, cast their ewes after the third crop. These old ewes are all put early to the tup, so as to have their fourth crop early for the fat market. In giving the above proportions I have not taken into account loss from death. To meet this, when laying in young stock we usually add a few extra gimmers.

The advantages of the above system for this, the East Lothian farm, I shall explain when I come to details of management.

Crops Grown for Food.

Having thus made a note of the nature of the holdings, and indicated the varieties of sheep stock we consider most suitable for each of them, I think it may be well, before going into details about other matters, to refer to the food found suitable for such a stock, and to touch upon its preparation. The home-grown food may be briefly set down as grass and turnips. A word may be introduced here as to the various kinds of grasses and turnips we have found most suitable.

Grass Seed Mixtures.—Not so many years ago it was a common practice amongst farmers in this district, when putting down a field to pasture, to use from a bushel to a bushel and a half of the ryegrasses—perennial and Italian—with 10 or 12 lb.

of clovers to the acre. With this mixture we seldom had good pasture. The clovers, especially the red, very seldom grew well along with such a large quantity of ryegrass; very often they disappeared altogether, and after the early flush in spring the ryegrass shot up into hard bare culms, leaving a very open-bottomed pasture. Further, the ripening of so much ryegrass seed was often dangerous to stock, because it tended to produce founder in sheep and stomach staggers in horses. I am aware, however, that this description of the behaviour of ryegrass does not strictly apply in the case of more humid climates and softer soils. Since giving up the too free use of ryegrass I have been much more successful in getting close-bottomed pasture with much more clover in it. For a single season's pasture we have obtained very fine clover by using as seed a mixture composed of 12 lb. Italian ryegrass, 14 lb. timothy grass, and 10 lb. of red clover, the cost being about 16s. per acre. This mixture, however, is not quite suitable for more than one year's grass, as when allowed to lie for a second season the clover will have almost entirely disappeared. Yet the timothy will have thickened up remarkably, and it, with the Italian grass, will still make a fairly good pasture.

For two and three years' lea we have had fine clovery pasture—even in the third year—from a mixture of 12 lb. of Italian ryegrass, 6 lb. perennial ryegrass, 14 lb. timothy, 4 lb. red clover, 4 lb. alsike, 3 lb. white, and 2 lb. trefoil or yellow clover. Sowing with this mixture may cost from 17s. 6d. to 20s. per acre. We use no cocksfoot, or if occasionally we use it on a poor field, we do so only to the extent of 1 lb. or 2 lb. to the acre. For a year or two we used it largely, but found that we could not make lambs fat upon it. I cannot say with certainty why clovers do not succeed with a thick seeding of ryegrass here, but think it may be because ryegrass is a quick-growing plant and a gross feeder, monopolising, as it were, the ready nutriment and starving out the tender clover plants. With timothy the clover may get a better chance, as it also is a very tender plant when young. This, however, is only a suggestion. There may be such a thing as "clover sickness," but I suspect *clover starvation* might often be a truer term for it.

With mixtures of grasses such as the above comparatively few seed-bearing culms are allowed to mature, because sheep eat the Italian ryegrass more readily than perennial, and generally crop the timothy very close. Consequently the pasture keeps a green, fresh appearance almost all the year round, and the risk of trouble from ripe ryegrass seed already referred to is reduced. These mixtures, be it remarked, are better suited for pasture than for hay. I may here say that I have frequently tried meadow fescue, but seldom could find much benefit from

it in this dry climate and soil, although I have noticed it growing freely in a moister soil and climate.

The Turnip Crop.—The next consideration is the turnip crop. This is put in in the usual manner, but it is of importance for us to consider what may be the most suitable varieties and quantities of each variety to sow, so as to suit the lambs especially. This class of stock is easily spoiled, or even killed, if put upon a wrong class of food, such as foul grass or unripe turnip of the harder and later-ripening sorts. For hogs, then (*i.e.*, lambs after being put upon the turnip-break), we sow "Graystone" turnip sufficient to feed them on the foggage and seeds, and to keep them afterwards for, say, a month on the turnip-break. We also sow a considerable breadth of green-top white turnip, so as to have that sort for sheep, and also for cattle, after the Graystones are finished. About New Year time these green-top whites are usually finished, and both sheep and cattle are then put upon swedes.

Turnips v. Cabbages.—Cabbages are often grown for lambs, and come in most usefully for feeding to them upon foggage and seeds. Our difficulty with cabbages is the finding of time to plant, as where a considerable acreage of potatoes is grown the planting of these usually requires all our available hands; moreover, in this dry climate we do not always succeed in securing a full crop, as the plants are often long in starting to grow, and sometimes many of them die out altogether.

We find early-sown Graystone turnip an excellent substitute for cabbages, as that sort can be safely fed to lambs on the grass even when quite young and only about half grown. This can be done without so much waste of food as might at first sight appear, because when the turnips are so young and tender the lambs eat both shaw and bulb; whereas, later on, when the bulb and shaw are more mature, the top is almost entirely neglected. This class of turnip, though soft, is by no means devoid of feeding properties. Occasionally, with the aid of cake, we send our first draw of three-part-bred hogs away fat directly off that variety, and frequently off green-top white.

Management on the Berwickshire Farm.

Some details of management of the sheep stock may now be given, and we shall begin with the ewes. These for the Berwickshire farm we generally buy at the September sales as what are known as "three-crop" ewes. The number required varies according to the appearance and acreage of the grass. If the grass is good we would put on about two ewes to the acre, exclusive of the acreage put aside for hay. On the arrival of the ewes on the farm they are put upon the older grass fields, as the

foggage and seeds or young grass will have been already stocked with lambs, or been reserved for them.

Attention to Feet.—Should any of the ewes show signs of lameness at this time, they ought to be separated from the sound ones and attended to almost daily till sound. If the lameness should be seen in any considerable number of them, it will in all probability be caused by what the shepherds call “scad” (scald?) This is a watery rawness between the hoofs, caused perhaps by a long walk to, and it may be from, the market. If not taken in time this “scad” is apt to assume a form of foot-rot. In this case we treat the whole flock exactly as in the case of lambs suffering from “orf,” already described. Afterwards any individual case of lameness is treated on the spot, as soon as noticed, by the application of some foot-rot ointment, which the shepherd generally carries with him.

Should ewes be allowed to go wrong in the feet from feeding on soft or foul ground when they are heavy with lamb, it is almost impossible to get them sound again, and neither they nor their lambs are likely to come to much good. The shepherd should see that the cake-boxes are shifted frequently, and that the turnips are put upon clean ground daily. As our object is to have both the ewes and their lambs fat at the same time, so that both ewe and lamb may go away together, we must be careful to do well to them all the time we have them on the farm.

Flushing Ewes.—Besides having the ewe in good condition at lambing-time, another object is to get as good a crop of lambs as possible. A good rough pasture conduces as much as anything to this. If not so rough as one would like, some early turnip carted out to the field, beginning some little time before the tups are put to them, will have a good effect. We do not like to put very fat ewes to the tup, as we find that ewes in improving condition at that time generally twin better.

Tupping.—As early lambs are here an object, the tup—Border Leicester or Oxford-Down—is put to the ewes a little before or about the middle of September, allowing, say, forty-five or fifty to the tup. Here it is advisable to keep each tup, with his special lot of ewes, separate from the other tups. This, however, can seldom be done, but it is well to have as few tups together as possible.

As the shepherd marks the breast of the tups with “keel,” the ewes get marked on being served, and thus the shepherd is enabled to mark, or “smott,” on some part of the body, all the first tupped ewes up to a certain date; then, on a different part of the body, all the next earliest, and perhaps a third lot the same way later still.

Lambing-time.—Then when lambing-time comes, which will

be about five months from tugging, the shepherd draws the first lambing ewes into the lambing park and enclosure, and so on with the respective lots marked as above for later lambing. This tends to prevent crowding at night in the lambing enclosure, as by the time the second or third lot is brought in for lambing, many of the earlier lambing ewes will be out with their lambs on some other field.

Lambing Pens.—Some farms are provided with a permanent lambing-shed and enclosure. Personally, however, I prefer a temporary arrangement as being more healthy. I think it best to erect the enclosure upon fresh ground yearly, so as to avoid any risk of trouble from former contamination.

The enclosure is formed by erecting double wire sheep-nets with straw fixed between them for shelter, or by hurdles with straw laced upon them. These same sort of hurdles and straw are used for forming the back and roof of small sheds, say at either end of the enclosure, which sheds are subdivided into compartments by small hurdles kept for the purpose. These small compartments are useful, especially at night, as when a considerable number of ewes happen to lamb about the same time, each ewe with her lambs can be kept separate till morning, so that confusion amongst so many young lambs may be avoided. The shorter time, however, ewes and lambs require confinement the better. Those small sheds are also useful for confining a ewe in when a strange lamb is being put upon her.

Winter Feeding.—After tugging-time, as the winter season advances and as grass becomes less plentiful, more liberal hand-feeding will become necessary. More turnips will be required, but these must be supplied with discretion. If full turnip be allowed them, the ewes often come to the lambing soft and feeble, producing large-bellied soft lambs, and often leading to heavy losses both in ewes and lambs.

As a rule, during the winter time we allow a cart-load of turnips to the hundred ewes. The cart-load will weigh about twelve or thirteen cwt. These turnips are often brought direct from the field, sometimes untopped. We also allow an increasing quantity of cotton-cake—undecorticated—up to a pound each, or over if necessary. About lambing-time we often allow about a quarter of a pound of a mixture of oats and bran in addition.

We generally begin to use swedes for the ewes about the New Year, as we consider they afterwards do quite as well upon them, if they have been accustomed to them before lambing, as upon softer turnip.

During a storm it is of importance that ewes in lamb should not be required to consume many frozen turnips. They should then be well supplied with hay, and perhaps with some dried

grains or bran, in addition to the cotton-cake, because, if confined to their usual quantity of turnip in frost, they may not only lose condition, but some may cast poor or even dead lambs in consequence. Should a sufficient number of hay-racks not be available, the hay may be folded into an ordinary string sheep-net and suspended from net-stobs.

Feeding Ewes and Lambs.—As soon as the lambs are well upon their feet they are removed, along with their mothers, from the lambing park to the pasture fields, where hurdles laced with straw are often erected for shelter; but in the case of extra severe storms these shelters are sometimes insufficient, and the shepherd requires then to remove the ewes and lambs to such better shelter as may be available. Those lambs which are likely to fatten most quickly are generally selected for the earliest and best young grass pasture, as in the early season a comparatively small lamb, weighing 55 to 60 lb. live-weight, if of fine quality, will sometimes bring the highest price of the season; whereas those which come forward to quality later require to weigh heavier and heavier as the season advances, and even then the price per head generally becomes smaller.

As it is sometimes dangerous to feed rough undecorticated cotton-cake to very young animals, we try to get over this difficulty in as simple a manner as possible. We break the cotton-cake into somewhat larger pieces than usual (and it is surprising how large a piece an old ewe will tackle), and when the lambs begin to come about the cake-boxes, we mix with the larger broken cotton-cake a proportion of pure linseed-cake broken to about the size of peas and beans. The ewes, having been accustomed to cotton-cake, seem to prefer it to linseed-cake, at any rate for a considerable time; and as the lambs cannot manage the large pieces of cotton-cake they naturally take to the smaller pieces of linseed. Of course this is by no means a perfect separation of the foods, but it tends to such, and practically it seems to answer very well.

As soon as we get as many ewes and lambs sold off as enables us to relieve a field of pasture, we top-dress it and take a late crop of hay from it. Although the crop may not be very heavy, the hay comes in very usefully for sheep-feeding during winter, and the field adds to our acreage of clean foggage for newly-bought-in lambs.

Management on the East Lothian Farm.

Regarding the ewes of the East Lothian farm, where half the number is composed of old ewes having their fourth crop, I may say shortly that those old ewes are managed on the same lines as the old ewes on the Berwickshire farm. The other half of

the stock, however, being composed of ewes having their first, second, and third crop, is managed somewhat differently. They receive no hand-feeding except their allowance of turnip, care being taken to see that they have a sufficient roughness of pasture. Should the pasture, however, become too bare to keep them in fair healthy condition, we do not then hesitate to allow them a proportion of short food. Although some flock-masters consider it bad management to feed cake or meals to keeping ewes, I have not found any harm follow, and consider it better to bring them to the lambing strong and able than to allow them to become lean and feeble. These younger ewes, with their lambs, are put upon the older pastures. The lambs of these ewes are weaned about the first or second week of August, and are kept on and sold off turnip as fat hogs.

The three-crop ewes have their third crop taken from them sometimes about the middle of July, because that age is cast so as to have early lambs next year for selling fat, and early weaning conduces towards early tupping.

Early Disposal of Lambs.—By the plan of having the other half of the ewe flock on this farm composed of old ewes having their fourth crop, and feeding both ewes and lambs fat, it will be noticed that we get a considerable proportion disposed of early. The first draw generally takes place about the middle of April; we then continue drawing as the lambs come to sufficient weight and quality, from that time onward till about the beginning of July, when all of these four-crop ewes and their lambs will have been cleared off the farm, with the exception, perhaps, of a few unthrifty ones; but, indeed, we often dispose of those also, because if they are not fat by that time they ought to have been, and are not likely to pay for further keep. It will be noticed that, but for getting quit of so many ewes and lambs early, we could not keep such a heavy head of ewes. It is by this early selling that we are constantly making room on the pasture for the later lambs as they come forward to size and require more food.

Growing Hay for the Flock.—As we grow no hay for sale on this farm, we reserve the whole of the young grasses for fat lambs, and take hay for our own use from a field of second or even third year's grass. We usually try to save one field of second year's grass for hay untouched by sheep, but in a backward spring have sometimes to allow the ewes and lambs the run of it for a few weeks. In a good grass year this is unnecessary, and we are often able to let another field away to hay after fat ewes and lambs have been sold off it. Of course this hay will be later and shorter than usual, but, if top-dressed as soon as possible, it is often surprising what weight of hay is secured, as it often bulks well if thickly planted with timothy grass.

Management of Lambs and Hogs.—We now come to the management of lambs bought in, or kept over, and fed as hogs on turnip. About the end of July, when store lambs begin to come into the market, we begin to calculate what acreage of foggage we may have, also how seeds are likely to turn out after harvest, and what other clean pasture—*i.e.*, pasture on which no stock has been upon for a considerable time—may be available. We then begin to buy in lambs accordingly, taking care not to overstock.

I would like to mention here that, in my opinion, there is no period in the life of a young sheep upon which its future well-doing or otherwise depends so much as upon this, the time between weaning and folding upon turnip. It is evident that the depriving a lamb of its mother's milk must be trying to it, so that to keep it in a steadily improving state at that time it must be carefully attended to and liberally fed. It is therefore of the greatest importance that it should be put upon clean fresh pasture, such as foggage after hay. I have known good lambs spoiled, almost for their short lifetime, by being put upon "tathy" pasture—*i.e.*, pasture showing many dark luxuriant spots from the droppings of stock recently pastured upon it. In such a case the lambs soon begin to "rush," and some to die, and the evil effects are not soon got rid of, even by a change on to turnip, as sometimes a number will continue unthrifty, and deaths may occur much too frequently all the winter. By inattention to this point, or by insufficient food of even good quality, a couple of months' feeding may easily be lost, as the lamb may lose condition for one month, and it may require quite another month to recover its former condition.

We do not, therefore, buy more three-part-bred lambs than we calculate we can keep well upon such clean grass as we have, and we begin at once with what the shepherds call "box meat." If the lambs have been accustomed to the boxes along with their mothers, there will be no difficulty in getting them to take to them. If, however, they have not been accustomed to feed from boxes, I find they will take to them very soon if supplied with dried grains, or a mixture of grains and other foods.

If, from want of suitable pasture, we have been unable to lay in as many three-part-bred lambs as we require for turnip, we may still have an opportunity of laying in more lambs about harvest time, as the prospect of more food of a suitable sort approaches. In this case we often lay in a younger class, such as half-bred Caithness, or other such lambs. No doubt these will require to be kept on for a considerable time after the first lot of three-part-bred lambs has been disposed of in the fat market.

As a rule, three-part-bred hogs bring the best price per

pound, if fat, at about 120 to 130 lb. live-weight. When kept on longer, the extra weight gained is often counterbalanced by the poorer price they bring per pound. Half-bred or cross hogs, on the other hand, can be kept on to considerably heavier weights, and still bring full prices per pound.

After harvest, if the young grasses amongst the stubbles are good, we allow the lambs to have a run upon them, and continue to cart out cabbages, so that the pasture may not become too bare.

Hogs on Turnips.—Should there be no cabbages, we give instead early Graystone turnip, even although they should be by no means full grown. We find these soft Graystone turnip with the shaw or top wholesome food for lambs even when unripe; whereas green-top yellow turnip, when unripe, are unsafe, and often cause a high percentage of deaths. When the foggage and seeds are sufficiently eaten down we fold the lambs upon the turnip-break, beginning with the Graystone variety. After these are consumed the lambs are moved on to green-top white, and after that on to swedes.

We sometimes find that we have a proportion of the three-part-bred hogs fat and ready for the market even while still upon the Graystone, and often afterwards while upon the green-top white, so that in the month of December we may have only the half-bred hogs, or other crosses which we may have laid in later, for swedes.

After the hogs are upon green-top white turnip we like to begin to cut the turnip for them as soon as possible, not so much at this early season, because the hogs may be beginning to lose their teeth, as because clean food, fed out of boxes, tends to save life. Before cutting begins we often lose a few from sand getting into the turnip shells, and so into the stomach of the animal. This is a common cause of loss in young sheep. In our own case we would often cut the turnip sooner than we do, but where a considerable breadth of potatoes is grown every available hand is generally employed in the securing of that crop.

As I am convinced that young sheep thrive much better when kept in separate small lots when on turnip, I try to have them separated into lots of about one hundred each, and often arrange these lots according to forwardness of condition. By this plan, when the first lot is ready for the market, it can be sent off, or some drawn out of it, without disturbing the other lots. This dividing into several lots entails the use of a greater number of sheep-nets than usual, but not so many more as at first sight may appear, as when the nets are moved forward a net length, the back net can be shifted to the front and so used again.

The space for each lot will depend upon the number of lots and the length of the break to be taken in, but the breadth of each division need not exceed one net length, or about fifty yards. We use wire-nets for the divisions, and string-nets in front, as being more convenient when carrying the cut turnip across to the boxes.

We do not weigh the turnip, or restrict the quantity in any way; on the contrary, we try by any means to get the sheep to eat as much as they possibly can, as it is then they lay on flesh most quickly.

We place a turnip-cutting machine outside of each division, and along with it two or three service-boxes or large baskets, which are filled with cut turnip in the evening, so as to allow of quick feeding in the morning. As early in the morning as light will allow, the shepherd feeds to the sheep in separate cake-boxes as much cotton-cake as he finds they will clean up, say, in half an hour. At the same time, the person who cuts the turnip cleans out the turnip-boxes, and empties into them the contents of the spare baskets which were filled the previous evening, a few turnips into each box, and so on till all the lots have been served the same way. This allows all the sheep a quick start to feeding in the morning.

The feeder then comes back to the first lot, and cuts as many turnip as will cover the bottoms of the boxes two or three inches deep, and continues to serve all the lots in the same manner again and again during the whole day. We do not attempt to fill the boxes full so many times a day, but keep sprinkling a few fresh-cut turnips into the whole of the boxes as often as possible. By this means the sheep are enticed to the boxes, in view of the arrival of fresh food, oftener than they would be were the boxes filled at certain hours and allowed to remain unreplenished till empty.

At three o'clock in the afternoon the shepherd again feeds the sheep with cake as at early morning, and in the evening the turnip-boxes are left filled with as many turnips as the person in charge considers the sheep will manage to consume by morning. The spare baskets, or small boxes, are left full again so as to be ready for the morning as before. A heck for hay is placed in each enclosure, and is replenished every afternoon.

This is our daily routine, and it continues much the same until the sheep are sent off to the fat market.

A Word to Agricultural Chemists.

I should like before I finish to say a word as to the unreliability of chemical analyses as a guide to the feeding value of a food. While I freely admit that chemistry has done much

for agriculture, I have long thought that agricultural chemists might do still more. Every practical feeder knows that some foods, which may show a comparatively poor analysis, often give as good, or better, feeding results than others showing a higher analysis.

Now the question may be asked, How does this happen? I am not prepared to answer this question precisely, but I suspect that while the chemist gives us the percentages of the constituents of the various foods quite correctly, he confines himself too much to the gross amount of these constituents, and does not undertake to show, for the benefit of the user, *what percentage of these percentages is soluble*, or rather readily digestible by the animal consuming it. For instance, it seems to be the fashion at present to value the feeding properties of turnips entirely by the amount of dry matter they contain, ignoring the fact that there is dry matter and dry matter. Mr Hendrick, chemist to the Highland and Agricultural Society, shows in his article on "The Composition of Turnips and Swedes," published in the 'Transactions' of that Society for 1906, p. 295, that the ratio of insoluble dry matter to the soluble varies very much. He says that "in No. 2 about 4 per cent of the dry matter is insoluble and 6 per cent soluble. In No. 11 only 2½ per cent of the dry matter is insoluble and 8 per cent soluble. The ratio, therefore, of soluble to insoluble matter in the two is very different."

I have known a case—in England—where the turnip contained so much dry matter, chiefly fibre, that the grower let the field to a grazier for nothing, on condition that he fed to the sheep a certain amount of cake, and even then the grazier found he had a poor bargain. If dry matter, insoluble as well as soluble, is to determine quality, then the acme of perfection in a turnip would be a globe of dry, woody fibre.

Then as regards imported feeding-stuffs, at page 17 of No. 4 Bulletin of the Edinburgh and East of Scotland College of Agriculture, it is stated that a mixture of decorticated cotton-cake, wheat, and cotton-seed was used in the case of lot No. 4. This mixture was meant to resemble linseed-cake in analysis, but fell somewhat short in albuminous compounds, and came out richer in carbohydrates. Although showing an excellent analysis, this compound fell much short of linseed-cake in feeding results. There may be several reasons for this failure. There may have been a want of palatableness which chemistry cannot show, and there may have been a mechanical reason for a certain amount of indigestibility, such as hard pressure of the decorticated cotton-cake. This result is sufficient to show that chemical analysis alone, as at present given, is by no means a sufficient indication of the feeding properties of any particular feeding-stuff.

Again, some simple foods, such as Indian corn, may be naturally too hard and dry to yield their full feeding value during the short time they may be retained within the animal. When American farmers feed whole Indian corn to cattle they keep numbers of pigs running with them to redigest it.

Then some foods, which are residues of simple materials, seem sometimes to be rendered more or less insoluble by the action of acids and counteracting alkalies to which they may have been subjected during the process of manufacture. I would therefore suggest that when using compounds for feeding purposes, one ought to know the various materials used in their composition, as chemical analysis alone without such knowledge may be, as I have already hinted, more or less misleading. Analysis has proved of very great value to agriculture in detecting adulteration and in many other ways, and I think we should not forget its difficulties, and how expedient it is to supplement its conclusions by the results of practical observation and experiment.

FARMING METHODS IN LANARKSHIRE.

By ARCHD. MACNEILAGE, Editor of 'The Scottish Farmer.'

IN a former article, published in last volume of 'Transactions' (fifth series, vol. xviii., 1906), some account was given of "Farming Methods in Ayrshire." This paper deals with systems of farming in the Clyde valley and the upper parts of Lanarkshire, the object being entirely practical and in no sense personal. It is not to set forth the merits of any one farm more than another, but to give information which may be useful to those engaged in kindred agricultural pursuits, where soil and climate may be somewhat similar to what they are in the great mineral county of Scotland.

Farming near Glasgow.

Of necessity, proximity to a great consuming centre like Glasgow must to a large extent determine the system followed on any farm. In the parish of Cambuslang, bordering on the upper waters of the Clyde, are two notable holdings—Westburn and Newton—tenanted respectively by Mr James Wilson and Mr John Speir. Both men are Ayrshire born and bred, so that, although we have left the western shire, we have still to do with Ayrshire men.

WESTBURN.

This farm is on the property of the Duke of Hamilton, contains about 350 acres arable and pasture land, and for about one mile of its length has the river Clyde as its boundary. The soil is a good loam, capable of growing almost any kind of crop. It is kept in the best of order, and draining is attended to with regularity every season. Resting on the Lanarkshire coal measures, and being hollow underneath because of the workings, drains have to be attended to or the land would soon be in a mess. The drains are from 15 to 20 feet apart, and from 2½ to 3 feet deep. The cost of drainage is about 1½d. per yard, 2½ feet deep. Buildings and fences (thorn hedges) are in excellent order, the steading having recently been reconstructed entirely at the landlord's expense, except that the tenant did the carting. He pays no interest on the landlord's outlay.

The farm, as managed by Mr Wilson, has three leading features: (1) a dairy of 60 cows, the milk from which is supplied daily under special contract to the Western Infirmary, Glasgow; (2) vegetable-growing for the Glasgow market, 35 to 40 acres being under such crops; (3) rhubarb-growing, with winter forcing, so that two crops are taken each season in darkened houses. About 30 acres are under this crop. It is obvious that here we have lighted upon a kind of farming unique, and calling for diligence of no ordinary character.

The Dairy.

With respect to the dairy, the milk is sold at a special price under a special contract, and averages nearly 8½d. per gallon all the year round. Calf-rearing is not indulged in except on very rare occasions, and the stock is mostly composed of sound commercial deep-milking Ayrshires, with a few Shorthorn crosses from time to time. Generally the head of bovine stock on the farm will number from 65 to 75.

Cropping

The cropping on this farm, apart from the vegetable and market-gardening phase of things, is carried out on the four-course rotation. Vegetables and rhubarb can be grown year after year on the same plots, the manuring being heavy. Stable manure is got in large quantities from Glasgow, and applied to the extent of 30 to 40 tons per acre for green crop, and sometimes 10 to 12 tons per acre for oat crop. Autumn manuring is not approved of where the land is bare, and very little artificial manure is applied except for top-dressing hay, and vegetables

such as cabbage. Nitrate of soda is the principal fertiliser in use for this purpose, with an occasional application of superphosphate and potash.

Oats are sown with the corn-drill to the extent of 5 to 6 bushels per acre, and one-sixth of the farm will be under oats each season. Recently Mr Wilson has been sowing Storm King, Tartar King, and Waverley, as well as some other varieties.

Wheat is sown with the corn-drill, in October or November, to the extent of about $3\frac{1}{2}$ bushels per acre, turnips to the extent of 3 to 5 lb. per acre in spring, and cabbages are planted 12,000 to 16,000 per acre. Mr Wilson obtains change of seed for nearly all his crops. He gets seed wheat from England, oats from the Lothians, and potatoes from the north and east of Scotland.

From one-twelfth to one-tenth part of the area of the farm is under a potato crop for the autumn market. The varieties planted are British Queen, Up-to-Date, Scottish Triumph, Bountiful, and Langworthy. They are planted in a 27-in. drill, and 12 in. between each set. Mr Wilson prefers good round seconds for seed. To a small extent he follows the practice of boxing and sprouting the seed before planting. He puts the seed in the boxes after lifting or early in winter, and keeping the sets free from frost, plants them with the growth not too far forward. October is the usual month for the potato raising, and sales are effected during winter and spring, a considerable proportion of the Westburn crop going to England for seed.

Swedes and mangels are grown, but not extensively, for winter feeding. Tait's Best of All is the swede preferred. The land for turnips and potatoes is ploughed in autumn, and then wrought in spring to receive the crop. It is "wrought" until a fine mould is obtained, but in an average season this is not a work of great difficulty with a soil like that on Westburn. Roots may yield about 24 to 35 tons per acre. The crop is raised in the usual way, mainly by female labour. It is lifted and housed, or put into pits and covered with "broke" straw.

About 25 acres of cabbages, 10 acres Golden Stone turnip, and 3 acres parsley, lettuce, and beet, are planted annually, and the crops are sold in Glasgow Bazaar. They are cultivated in the same way as potatoes, but dressed with extra quantities of stable manure, and also extra dressings of artificial manures.

Like most dairy farmers in the west, Mr Wilson is a believer in the timothy meadow. He has about 30 acres under timothy annually. One 18-acre meadow has been cut for six years, and is still very good. It has been dressed with from 12 to 16 tons stable manure every second year, and artificial manure in the alternate season. Hay harvest begins on Westburn about the first week of July, and oat harvest about the middle of August.

Labour.

Labour on a farm like Westburn is a big item. The regular staff consists of seven ploughmen, five ordinary labourers, and two boys; women workers vary in number from five to twenty, according to the season. Women employed as field-workers are paid usually 9s. per week, and 15s. per week in harvest. Ploughmen get 21s. per week and a free house. Labourers get 22s. per week, but find their own quarters. The labour bill on Westburn works out to about 70s. per acre on the whole farm.

NEWTON.

The agricultural world generally has heard of Mr Speir and his farm at Newton. To some extent his methods are the same as those of his neighbour, Mr Wilson. It is unnecessary, therefore, to duplicate notes where things are in common. The farms, although contiguous, are under different lairds, Mr Speir's being on the estate formerly owned by Mr John B. H. Montgomery. Newton farm lies between 50 and 150 ft. above sea-level. It is mostly composed of very light land, some of it not much better than sand or floating mud, while other parts of it are stiff clay. It contains a good piece of old pasture which has lain out for at least thirty years.

Drains.

Drains are subject to frequent chokings and lowerings of levels from the effects of underground workings, and constant watchfulness is needed to keep them in repair. Usually they are laid about 18 ft. apart and 3½ ft. deep. Owing to the great amount of iron oxide in the soil, tiles of a larger size than is usual are laid: 3-in. tiles are the smallest. Mr Speir puts the cost of draining at from £5 to £5, 10s. per acre for digging, laying, and filling, with from £3 to £3, 10s. additional per acre for tiles.

Buildings.

Buildings on Newton are sufficient for the purpose intended. Shedding for implements has been erected by the tenant at his own cost. The opinion is expressed that farm-buildings in Scotland generally are too elaborate and expensive. For all, except the dwelling-house and other buildings indispensable on any farm, buildings of creosoted wood and iron, on brick or cement foundations, would be quite satisfactory. This is a point which has been overlooked in the past, and under the rapidly changing conditions of modern agriculture it may very well be kept in view.

Fences, &c.

Fences along the main roads consist of thorn hedges, and are in excellent order, being switched annually. Internal fences could be improved. Mr Speir's predecessor was a cropping tenant, to whom internal fences were of secondary importance.

At present landlord and tenant are engaged in straightening out a crooked stream, and the march fence is being renewed at the joint expense of the proprietors on either side. The cost of straightening the burn is being borne jointly by landlords and tenants, and the forming of the waste land along the old waterway is being executed by the tenants.

Dairy.

The leading features on Newton might be described by quoting the terms employed regarding Westburn. The dairy consists of from 80 to 90 cows, 60 to 75 of which are constantly in milk. This is supplied to Belvidere Fever Hospital under a special contract with the Public Health authorities of Glasgow.

The cows are purchased when young on the basis that they stand the tuberculin test. Should they fail to do so they are returned. Mr Speir believes that the cost of an efficient testing is more than repaid by the greater healthiness of the stock.

As a rule cows from four to five years old are purchased, and these are mated with a black bull, the calves going to the feeding districts for fattening purposes. Cows when sold out, on account of age, failure to breed, or defective milk yield, are sold fat. The calves are sent off when from ten to fourteen days old. They are put into an old oilcake or other bag, with their legs quite free. The mouth of the bag is sewn closely round the neck, and in this way the calf is carried safely any reasonable distance. These calves by a black bull realise several times the price of a pure Ayrshire calf.

Sheep.

The only other live stock on the farm that need specially be mentioned is a flying stock of from 300 to 400 sheep. These are bought in August, and are fed on cabbage, with grain and cake. The cabbages are usually the second growths of an early crop cut for table use. Italian ryegrass is sown among the cabbages when these are last earthed-up. The sheep have therefore a first-class bite. When consumed in this way, the second growths of the cabbage crop, when the sheep are folded on to them, realise from 30s. to 80s. per acre, less the cost of

cake and attendance. This is an illustration of the intensive farming followed on Newton, of which more will be heard.

Mr Speir is not a horse-breeder. He finds that mares worked as hard in summer as his require to be, cannot be bred from with safety or profit. Those who have seen his carts in town will bear witness that he keeps a very good class of serviceable, thick, working Clydesdales.

Cropping.

The rotation on the cropping land on Newton is as follows: Green crop, grain crop, and hay; or green crop, wheat, hay, and oats. Mr Speir sows from $3\frac{1}{2}$ to $5\frac{1}{2}$ bushels of oats per acre, according to the variety; wheat, from 3 to 4 bushels per acre, according to variety and time of sowing. Turnips are sown in the proportion of 3 lb. to 8 lb. per acre, according to variety and the purpose for which the crop is intended. A similar remark applies to cabbage. They are planted to the extent of from 12,000 to 16,000 per acre, according to variety, date of planting, and purpose aimed at. They may be grown for cattle-feeding, or for the Glasgow Bazaar. In the latter case they will be planted early, the first growth cut, and the second consumed by sheep, as already described. Seed is changed on Newton as on Westburn. Wheat will be changed annually; oats and potatoes every second or third year. Wheat is generally obtained from England, oats from a clay soil anywhere at a distance, and potatoes almost invariably from moss. The varieties of oats sown on Newton recently have been Storm King, Waverley, Goldfinder, and Wideawake. From one-tenth to one-sixth of the entire area of the farm is under oats annually.

Tillage.

Mr Speir's method of tillage is of course determined by the character of the soil and the season. In an early and dry autumn he cultivates the stubbles with a broad-tined grubber, and hand-picks any weeds exposed. The land so dealt with is ploughed perhaps in December, with a furrow from 8 to 9 in. deep; and before potatoes are planted it may again be harrowed and ploughed. This, however, is not the invariable practice, the land being frequently harrowed and drilled after the first ploughing, following on the late autumn grubbing. One-half of the green crop is usually grown after hay. This land gets about 15 tons of dung per acre in October or November. This is ploughed in about a month later; and after being harrowed it is again ploughed, with a deeper furrow, in February or March; after this the soil is usually ready for harrowing and drilling.

Manuring.

Dung is applied to all green-crop land to the extent of from 25 to 30 tons per acre: this dung may be either farmyard, or stable manure purchased in the city. Artificials are applied in varying quantity over and above this, according to the crop to be grown. Mr Speir is an advocate of autumn manuring within limits. All this hay land is dunged between September and December, when the plants are living and growing and can take up the soluble portion of the dung; but with this exception he applies no dung in autumn. The stubble land is dunged in spring.

Slag and potash are sown on the wheat for the sake of the succeeding clover crop; nitrate of soda is applied to the hay. The grain crops get no artificials, and the green crop is dressed according to the requirements of each crop. Through the application of basic slag and potash to the wheat crop in winter, Mr Speir has never failed to get a sufficient clover crop among the Italian ryegrass. Previous to the adoption of this plan he had no uniformity in the clover crop.

Hay Crop.

Mr Speir does not make a practice of seeding hay, but in seasons when there was known to be a shortage of Continental supplies of Italian ryegrass he has seeded the second crop, and found the course under such circumstances profitable. He has a small timothy meadow which has given two crops annually for over twenty years. In Mr Speir's opinion, a timothy meadow on deep firm soil well manured is permanent; on other kinds of soil the meadow should be renewed every five or six years. In laying down his timothy meadow Mr Speir sowed timothy along with Italian ryegrass on wheat, and two crops of hay have been taken annually since. The first crop is always heavy: it is cut when the flower begins to show; but the second crop is never heavy. Dung is not applied to the meadow, but sewage and water from a stream are applied during the greater part of the year.

Potatoes.

Potatoes are grown chiefly for the Irish seed trade: the crop covers about one-tenth part of the area of the farm. British Queen and Up-to-Dates are the favourites at present; but Mr Speir gives all the new varieties a trial. Drills are 28 in. wide, and sets from 12 to 14 in. apart. The seed is mostly all boxed. It is put into the boxes usually a short

time after being dug; but in the case of the Up-to-Dates the seed is not boxed until January. If these later boxes are kept a little darker than the rest, the seed in them is as far forward as it is wanted to be at the time of planting. The crop is lifted in October, and disposed of for seed in spring from January to April.

Other Crops.

Mr Speir sows Irvine's Green Top variety of turnips. The yield may be anywhere up to 30 tons per acre. The crop is lifted and stored in large pits or heaps covered with straw, near to where it is to be consumed, and easy of access in wet weather.

Cabbages are grown very extensively on Newton. Planting begins in the first week of February and continues until April. It is resumed in the end of August and continues during September. As Mr Speir has explained in detail, in a former volume of the 'Transactions,' his system of growing cabbages, it is unnecessary to recapitulate. But there are certain other crops grown on Newton that call for attention.

Two crops of hay are taken annually, and on the average as good a price is realised for the second as for the first: the second is usually better coloured than the first. About 10 acres of the farm are generally under carrots, and from 20 to 25 acres under cabbages; 20 acres are under rhubarb, one-fourth of which crop is lifted annually and forced. About 8 acres are under daffodils and narcissi, a portion of which are forced each winter, the flowers being gathered in February. During summer the forcing-houses are devoted to tomato-growing. These houses are three in number, each 200 ft. long and 16 ft. wide. The rhubarb forcing-houses are also three in number, 110 ft. long and 40 ft. wide.

Labour.

Farming such as carried on at Newton entails a heavy labour bill. It solves the problem of rural depopulation, because it calls for labour and finds it during a greater part of the year. Mr Speir employs one griever, who is over all and subject only to the master; one foreman over the women workers, who number at times from fifteen to one hundred, according to the season. There are seven ploughmen, one cow-man, one shepherd, a gardener, a joiner, six ordinary labourers, and one boy. The terms of engagement are rather unusual. All married men are engaged with a month's notice on either side. Dairywomen are engaged on the usual six months' basis; others are engaged as required. With respect to the cost of labour, the broad fact is stated that, inclusive of grass land,—which is almost one-

fourth of the whole area of the farm,—the outlay on labour for many years past has been slightly over two times the rent. The labour bill for each of the varied crops grown by Mr Speir would certainly be interesting, but the difficulty of forming such an estimate is insuperable.

Implements, &c.

An inventory of the implements on an up-to-date farm like Newton shows the farmer to be more of an engineer than anything else. Mr Speir has been good enough to give such an inventory, and I give it as he draws it out: Carts, hay-waggon, rick-lifters, ploughs; harrows for flat land, for top of drills, and between drills; grubbers, cultivators, grain-drills, grass-seed sower, turnip sower, drill for sowing garden or small seeds; mowers, reapers, binders, scythes, hay-rakes, hay collectors (two patterns), horse-fork; rollers, clod-crushers for flat and drills; potato digger; steam engine, threshing machine, hand fans, bobby grain sizer and dresser, chaff-cutter, corn bruiser, oilcake breaker, disintegrator for making meal, meat coolers, turnip cutters, churns and dairy utensils, sack hoist, pulley blocks; hand hoes, spades, graips, forks, shovels, &c.

GARTCRAIG.

This farm is not on or in the Clyde valley, like Westburn and Newton, but it is also within the six miles' radius of Glasgow. It is tenanted by Mr James Murdoch, and is situated near to Shettleston, on the east side of Glasgow. It extends to 274 acres of medium land resting on the whin rock. The farm has not been drained for twenty years. Previous to that time it was all thoroughly tile-drained with drains 14 ft. apart and 3 ft. 6 in. deep. The cost would be about £10 per acre. Re-draining is urgently required, perhaps not so much on this farm, but generally in the neighbourhood. The fences are mostly stone dykes and hedges, and are in fairly good order. Several cottars' houses have recently been erected by the landlord, and the tenant has erected sheds in the steading.

The farm is wrought on the usual four-course rotation: oats, hay, green crop, and wheat. The last is of more importance on this farm than on most farms in the west of Scotland, and is grown quite as much for the straw as for the grain. There is a good market, for mattress-making, for unbroken wheat straw in Glasgow. Oats are sown 5 bushels to the acre; wheat, 4 bushels to the acre; turnips, 4 to 6 lb. per acre; and cabbages, 10,000 per acre. Wheat seed is procured from the Lothians.

The land is ploughed for oats in winter, for green crop in

March, and for wheat in November, and there is the usual spring cultivation of stubble land. Very little artificial manure is applied, horse and cow dung being plentiful, and it is applied at the rate of from 30 to 50 tons per acre. The principal oat grown is the Hamilton variety. Potatoes are mostly Up-to-Date, planted 12 in. apart in 27 to 28 in. drills. Swedes are usually Monarch and Best of All varieties, and the swede and cabbage land is wrought very much alike.

Mr Murdoch has an Ayrshire herd of 60 head. He supplies milk to dairies in the city at wholesale prices. No stock are reared, the cows being all bought in and sold off as fat when they cease to be profitable in the dairy.

Being well known as a judge of Clydesdales, Mr Murdoch breeds a few foals every year. He employs four ploughmen, one at a wage of 22s. and three at 21s. per week with free house and one bag of potatoes and one boll of oatmeal each per half-year, two ordinary labourers at 24s. per week each without perquisites, female servants at from £10 to £12 each per half-year with board and lodging, female outworkers at 1s. 8d. per day, and two boys—one at 12s. and the other at 15s. per week.

Gartcraig is typical of scores of farms in the vicinity of Glasgow. It is cultivated like a garden, every inch of land being cultivated close up to the dykes and hedgerows. In this respect it is one of the most interesting farms in the neighbourhood, but it is not alone.

TORFOOT, AVONDALE.

Of a totally different character is the farming in Avondale. This is a district in which there are many small lairdships, and it is one of these which I now propose to describe.

Torfoot is the property of the occupier, Mr John Paterson. It lies between Strathaven and Darvel in the Drumclog district, 650 feet above sea-level. The area is about 75 imperial acres, and it is nearly all arable. The soil is a gravelly light loam, partly a grey soil on top with gravel below. It is naturally dry, and drains itself with little trouble into the Avon. All the "holm" land and part of the peaty soil was drained between twenty and thirty years ago. There is an interesting fact in this connection. Two acres of peaty land were drained about twenty-five years ago. Tiles were put in, but there was no outlet, the bottom of the drains being pure sand and gravel. The soil has been dry ever since. Land in the neighbourhood is generally fairly well drained, but there is not the same attention paid to this as there used to be.

One drawback to the successful management of these small lairdships is difficulty in complying with the unreasonable

requirements of sanitary authorities with respect to the buildings required for dairy purposes in uplands. What may be quite necessary on a large estate and near to manufacturing centres is both prohibitive and unnecessary on an Avondale lairdship.

Permanent fences are of larch stobs with six rows of wire, a few hedges, and, most effective of all, the river Avon. Larch stobs cost 5½d. each, bright wire 11s. 6d. per cwt., and larch posts 2s. 9d. each.

The leading features of Torfoot holding are dairying and poultry-keeping; also wintering a few Blackface ewe hoggs or crosses and pig-keeping. Mr Paterson has poultry-houses studded all over the farm, some fixed and some on wheels. He keeps six or seven pure breeds of poultry and some cross-bred fowls, and uses a Tamlin incubator.

From 20 to 22 Ayrshire cows are kept, and 10 calves are reared annually. The cows are brought in to calve at two years old. The calves are reared at first on milk, gradually tapering off into a mixture of oat- or barley-meal and linseed-meal drinks.

The milk during the five months from May to September is made into cheese. After September it is sold at the best price that can be got, to go by road or rail to Glasgow. Mr Paterson makes the uncoloured flat Dunlop cheese, and perhaps on occasion a few Stiltons. He has been a successful exhibitor of Dunlops at the Highland Show.

About threescore lambs are bought in autumn and sold again in April or May. Horses are not bred, and the motor is anticipated as a possible boon to the small holder, who regards horses meanwhile as a necessary evil.

Cropping.

The most valuable crop on a holding like Torfoot is its pasture; after that may come the timothy meadow and the hay crop. The cost of labour is difficult to estimate, because the work is mainly done by the occupier and his wife and family.

Being a free agent, the occupying owner has no trouble about freedom of cropping, and little wonder, seeing he has fixity of tenure and free sale. Mr Paterson crops as he thinks it will best pay him, but generally endeavours to follow this course: lea oats, green crop, oats, and hay for two or three years.

Mr Paterson has some pasture over twenty years old, but generally he finds it requires renewing after ten or twelve years. Oat seed he procures from Ayrshire, preferably about Kilmarnock. Potato seed he varies from moss to sand and from sand to moss. He ploughs lea immediately after the New Year,

then stubble, and the clean or red land just before seed-time. But the principle acted on is to plough as little as possible, to purchase as little artificial manure as possible, but to make the farmyard dung spread over the whole of the cultivated land. Lea oats will get from 3 to 4 cwt. of artificials, consisting of one part sulphate of ammonia and three parts superphosphate. Like all upland farmers, Mr Paterson believes in bone meal, which he applies to the land when it is being sown out. The Cunningham system of cropping without roots is regarded as good practice, Mr Paterson having often had good hay and pasture after stubble oats. But the pastures are getting liberal dressings of basic slag, superphosphates, dissolved bones, and bone meal. The practice of two white crops and no green crop is not new in the experience of these upland yeomen farmers.

Of oat varieties, Tam Finlay, Longhoughton, and Banner are in favour.

Timothy is sown on all grass land, along with ryegrass, cocksfoot, and clovers. The pastures are managed with skill, the object being to maintain them in good condition as long as possible; therefore, good seeds are sown.

Summing up Mr Paterson's experiences, considerable light is thrown on present-day problems. The place, when purchased by his father about half a century ago, carried about one-third the head of stock it is carrying now. It is naturally very poor, "silly" land, but constant feeding of stock and attending to them carefully has in this case brought a gradual, although a somewhat tardy, reward. One point is worthy of special mention. Mr Paterson does not buy "special" or mixed manures. Until the opening of the Strathaven and Dalvel branch line about two years ago it was a costly business carting manure or other material six or seven miles from Strathaven, and it was not attempted. Mr Paterson was for many years Secretary of the Avondale Farmers' Analytical Association. Through it he could purchase his own ammonia, phosphates, and potash at wholesale prices, and make his own special manures according to the requirements of soil and crop.

SANDILANDS.

Few Upper Ward farmers are better known than Mr James Weir, the tenant of Sandilands farm, on the Earl of Home's Lanarkshire estates. Besides Sandilands, Mr Weir farms Burnhouse, the two holdings being practically one. They extend to 390 acres, of which 337 acres are arable and 53 pasture. The soil is chiefly of a dry, thin, gravelly nature, and 140 acres consist of cold-bottomed clay.

Drains, Buildings, and Fences.

A good deal of draining has been done during the past two years, and the whole of the farm was thoroughly drained when Mr Weir became tenant thirty years ago. The drains are laid 18 ft. apart and 3 ft. deep. The tiles are of fireclay. The cost of cutting was 3s. per chain, and tiles according to size. Many of the drains laid from twenty-five to forty years ago have become useless on account of the tiles then put in being too small. These have all been lifted and 3-in. pipes put in instead.

The buildings in Mr Weir's occupancy are generally in good order, and the stables, byres, and granary accommodation are extra good. Not with reference to his own holding, but generally, Mr Weir is of opinion that buildings for young cattle could be put up much more cheaply with brick walls and galvanised iron roofing. Fences are stone dykes, hedges, and wire, and are all in good order.

The march of agricultural improvement has not been stayed on farms like Sandilands and Burnhouse, where proprietor and tenant are both able and willing to work hand in hand. The fences were put into good order when Mr Weir entered, and within the past four years some splendid stone dykes, 5 ft. high, have been built by the proprietor, the tenant quarrying and carting the stones. Twenty-six acres of what was regarded as comparatively worthless moorland was drained by the proprietor, while the tenant ploughed, took out the stones, and limed the soil. The best oats on the farm in 1905 were grown on this land.

The principle followed by Mr Weir has been that of making the produce walk off the farm. In other words, a naturally poor, thin soil has been made to grow excellent crops by liming and the liberal feeding of cattle and sheep on the land. The purchased cereals and cakes have entailed an annual expenditure of double the amount paid in rent, and nearly all the home-grown grain has also been consumed on the holding. Where dairying is not prosecuted, this is the only system which can possibly be expected to yield good results.

Cropping.

The rotation is that usually followed in the districts—viz., (1) oats after lea; (2) turnips, with a few drills of potatoes; (3) oats, with "seeds"; (4) hay, all of which hay is consumed on the farm. Mr Weir has been a diligent patron of new varieties of oats, but does not commit himself to any statements on that score. He sows from 4 to 6 bushels oats per acre, according to the tillering properties of the variety used. He grows neither

barley nor wheat, and for green crop depends almost entirely on yellow turnips.

The stubble land is all dunged in autumn, the dung lying on the land a considerable length of time before being ploughed in. The soil is so porous that the value of the manure is saved by this method of treatment. The lea oats are sown with "seeds" to give a good bite to the sheep after the oats are cleaned off. The grass roots also take up the manurial residues. It is obvious from this that Mr Weir has a fairly dry climate. Most farmers find the grassy butt-ends of their oat sheaves after green crop difficult enough to dry, without risking further difficulty of a like nature with the lea oats; but Mr Weir aims rather at a heavy oat crop, which sometimes kills out the "seeds" should the straw lodge.

Manuring.

The grain crops are manured with $\frac{1}{2}$ cwt. sulphate of ammonia, 2 cwt. best superphosphate, and 1 cwt. potash per acre. The turnip crop gets all the farmyard dung, and a dressing of superphosphate, with a little ammonia and potash, in the drills. On suitable soil Mr Weir applies basic slag and basic superphosphate, to the extent of 5 to 8 cwt. per acre. From 25 to 30 tons of artificial manures are supplied annually to the whole farm.

Basic slag is applied extensively to the old pasture and does much good, and potassic manures are constantly applied, with unfailing success to the thin soils.

Turnips yield from 25 to 30 tons per acre, and are harvested by being put into large heaps and covered with straw. For spring use a few acres are ploughed in.

Livestock.

Mr Weir carries on both kinds of stock farming. He has a stock of 35 cross cows, and from 60 to 70 head of young cattle. From 35 to 40 calves are reared annually, and at Burnhouse 25 cows are let to a bower for dairy purposes. A black polled bull is kept, and at Sandilands there are 10 cows kept, which rear the calves from the dairy herd as well as their own. The calves suckle the cows until they are able to eat; they are then taken off their foster-dams, and a new batch of sucklers take their places. All these calves are fed off at two years old, about 50 cattle being fed annually.

The bower makes Dunlop flat cheese during the summer months, and in winter sends the milk to Glasgow. His price may be from 6d. to 9d. per gallon according to the season. The cost of carriage is 1d. per gallon by rail.

Sheep are an important factor in the successful management of a farm like Sandilands. About 16 score of greyface and half-bred lambs are fed during winter. They are usually all disposed of by the month of May. Their places are taken by ewes with lambs at foot, which are fed with cake and corn all summer. These lambs are sold fat in July and August, and the ewes are ready for the fat market by the end of August or beginning of September. The new crop of lambs for winter feeding are put on after the late autumn sales.

Horse-breeding is a feature of Mr Weir's ordinary farm practice. Clydesdales of good pedigree are alone kept, and from 5 to 8 foals are reared annually. When the foals are weaned they are put into a field with a wooden house for shelter, and are liberally fed on chop and hay. The mares in foals are carefully worked up to the day of foaling.

Labour.

What I have now been describing is a thoroughly business up-to-date farm. It is wrought by one foreman, three ploughmen, one boy who looks after the sheep, one or two labourers during winter, and from three to four during summer. These are chiefly Donegal Irishmen, and good, useful, honest workers they are. Women workers "are not to be had for love or money." The foreman has 22s. per week, with free house; the three young men (ploughmen) have from £10 to £15, with board and lodging, per half-year; and a byreman has £15, with board and lodging, per half-year. Mr Weir does not know what the cost of working the farm per acre may be, and thinks it better not to try to reckon it, as otherwise he fears the plough would not be yoked.

WOOLFORDS.

The farm of Woolfords, Cobbinshaw, is situated in the Upper Ward of Lanarkshire, in the occupancy of its proprietors, Messrs James and Matthew G. Hamilton. It is known far and near as the home of one of the best flocks of Blackface sheep in the country. It contains 1200 acres, of which 350 are arable and pasture, and 850 or thereby rough pasture or moorland. The soil varies from a stiff clay to moss, and the farm is regularly drained, from 5 to 10 acres being gone over every year. These drains are placed from 10 to 20 ft. apart, and from 2 ft. to 3½ ft. deep; 3-in. tiles are laid, and the cost will run from £5 to £10 per acre.

Live Stock.

The leading features on Woolfords are Blackface tup-breeding and the rearing of store cattle, the steers to be finished off on better land and the heifers sold for dairying: 120 head of cross-bred cattle are usually carried, a Shorthorn bull being in use. Each cow suckles two calves for about four months. The calves are then weaned and fed by hand, while other relays of two calves take their places.

Blackface tups are reared on the most advanced principles. The lambs are weaned about the middle of August, and put upon foggage or good grass until the end of October. They are then housed, and get about $\frac{1}{2}$ lb. each of oats per day, increased gradually to about $1\frac{1}{2}$ lb. each, before they are put out to grass in April. This quantity is continued, with the addition of cabbages, until the sale season in September and October.

Cropping.

The character of the stock carried on Woolfords determines the system of cropping adopted. The rotation is adapted to the grazing needs. The field which has been grazed longest is broken up with lea oats, followed by a turnip, cabbage, or rape crop, and sown out with oats and hay. Oats are sown at the rate of 4 bushels, turnips $2\frac{1}{2}$ lb., and cabbages 10,000 plants per acre. Lothian oats, Peebles turnips, and the best kinds of grass seeds are sown. Autumn manuring is practised, and the lea oats get 4 cwt. superphosphate and 4 cwt. potash per acre. Turnips or rape get 5 cwt. superphosphate per acre, in addition to the farmyard dung, at the rate of about 15 loads per acre. The cabbages get 40 loads of farmyard manure per acre, and are otherwise cultivated like the turnips.

There is a timothy meadow of about 25 acres in extent. It lasts from five to ten years, with a light manuring from the farmyard annually.

Storm King and Hamilton oats are sown, with Inch's Bronze-top yellow turnips and Langworthy potatoes—the last crop for household and farm use only.

The staff on this farm consists of one ploughman, two shepherds, two ordinary labourers, and one boy. The wages paid to married men are 21s. per week, with free house.

TRIALS OF OATS.

By JOHN SPEIR, Newton Farm, Glasgow.

IN 1905 a trial of three varieties of oats was carried out here—(1) Garton's new oat Universal; (2) Potato, from a new stock of seed; and (3) Wide Awake, from a stock which had been grown on the farm for one year. Of each variety one sack of seed was used, drilled in early in April at the rate of slightly under four bushels per acre. The land selected was a free loam after Italian ryegrass and clover, which had yielded two cuts of hay and been lightly manured with dung in October. Each variety occupied a strip across the middle of a 12-acre field, and with none of the varieties were the headlands included. A space three feet wide was left unsown between each of the varieties, the actual ground covered by each being carefully measured after the crop was reaped.

All the varieties did equally well during the summer, and their growth was not materially interfered with by any untoward climatic or other circumstance. The ear of Universal oat was out about 14 days before any of the others, and it was ripe and ready to reap three weeks before the plots of Potato or Wide Awake had reached an equal degree of ripeness.

At the date of reaping, the most of the Universal oat was standing. It was opened by the scythe along the long side and at the ends, and was cut by the manual delivery reaper. Very wet and stormy weather set in before the crop was ready to stack, and in the interval considerable loss of grain occurred owing to depredations by crows and small birds. The plot was away from any house and very much out of sight, and a good deal of damage was done before it was noticed. Immediately after rat-traps were set on the tops of several of the stocks, and when one or two crows had been caught the damage ceased. The loss in grain would, however, amount to somewhere between two and three bushels per acre.

The plots of Potato and Wide Awake were reaped in the same manner as the Universal, and each, when sufficiently dry, was stacked separately. In January all were thrashed, with the following results:—

VARIETY.	Lb. of dressed grain.	Lb. of small and light grain.	Total bushels of 40 lb.
	per acre.	per acre.	per acre.
Potato . . .	2154	10	54 $\frac{4}{10}$
Universal . . .	2296	67	59 $\frac{3}{10}$
Wide Awake . .	2884	107	74 $\frac{31}{10}$

The grain of the Potato oat was the best sample of the lot. It was a nice class of grain, seemed to have less husk, and was much whiter than any of the others. It weighed 42 to 44 lb. per bushel.

The Universal was larger in the grain than Potato, but in that respect it did not materially differ from the Wide Awake. The grain is more husky than Potato, although not excessive in that respect, but it had not the pure white colour of that variety. It weighed 41 to 42 lb. per bushel.

Wide Awake is a recent introduction from Canada. It and the Potato variety ripened at exactly the same time. The grain is not so fine as that of the Potato, nor yet has it the same colour. The least exposure to wet seems to cause it to take on a yellowish tinge. It seemed to contain about the same amount of husk as Universal, and weighed from 40 to 41 lb. per bushel.

The straw of all the varieties was about the one length, and none of them showed any more inclination to lie down than the others. The straw of the Potato oat was best eaten by the stock, as they seemed to relish it rather better than either of the other two. The grain of all the varieties tested seemed to have about an equal attachment to the straw. Where an oat is wanted to ripen early, or where the season is short, the Universal seems as if it would be a good oat. To all appearance it will be about the earliest, if not the very earliest, oat in cultivation.

ON SOME INJURIOUS INSECTS IN 1906.

By Dr R. STEWART MACDOUGALL, M.A., Consulting Entomologist
to the Society.

THE RASPBERRY MOTH—*Lampronia rubiella*.

DURING the past spring and early summer the caterpillars of this moth were very common, and over a considerable area their work was destructive. The damage done is to the buds and the shoots—the buds being bored into and eaten, and the shoots tunnelled. The caterpillar does its worst work not in the year of its hatching but in the next year. Hatching from eggs laid on the raspberry flowers in the summer, the caterpillars live for a time in the receptacle of the fruit, and afterwards pass into a hibernating stage under cover of a whitish silken cocoon, these cocoons being in the ground below

the canes, or it may be in crevices in the rougher bark. In the next spring these caterpillars issue from their winter quarters, ascend the canes, and bore into the buds, which in consequence fail to develop. The caterpillars also tunnel into the pith of the shoots, which also fail. When full grown the caterpillar pupates in the hollowed-out pith of the cane, and in three weeks from pupation the moth issues, the flight time being from the end of May and in June, when the eggs are laid. The caterpillars are pink or red and have black heads; the legs number 16.

Remedial Measures.

Advantage should be taken of the fact that the caterpillars hibernate in the soil at the base of the plant, by disturbing them in this position or burying the surface soil so that the pests would be destroyed. This treatment could be adopted any time between the late summer and the next early spring.

The base of the raspberry stocks should also be coated with a mixture of soft soap and paraffin before the issue of the caterpillars from their winter quarters, to prevent their ascent of the canes.

Cut off and burn the infested shoots. In very bad infestation the canes may have to be cut back right to the ground.

VINE AND RASPBERRY WEEVILS—*Otiorrhynchus*.

The Black or Vine Weevil (*Otiorrhynchus sulcatus*) and the Clay-coloured or Raspberry Weevil (*O. picipes*) continue to be sent. Both of these weevils feed at night-time on fruit and other plants in greenhouses and out of doors. Neither of the two beetles has wings.

The Vine Weevil has a well-marked furrow on its short proboscis. The beetle is black, with grey hairs on the head and thorax; the wing-covers are furrowed, and show yellow hairs; the legs are also dark in colour; the antennæ, which are bent, are clubbed at the tip, and are reddish in colour. The beetle measures about two-fifths of an inch in length.

The Raspberry Weevil is also a dark-coloured weevil, but the scales that cover it give it a clay colour; the wing-covers are furrowed, and bear bristles; the legs are red; the bent antennæ end in clubs. The beetle measures a quarter of an inch and over in length.

The larvæ feed in the soil on the roots of the plants; they are white in colour, with brown heads and biting jaws; legs are absent, and the grubs have a curled, wrinkled appearance.

Remedial Measures.

The commonly practised treatment is the collecting by hand of the beetles at night, the collectors being provided with a lantern; or the shaking of the weevils down on to tarred boards, or to white cloths spread for the purpose. Lately Mr W. E. Collinge has been experimenting as regards treatment out of doors, and he finds that the most useful measure is to place here and there among the branches of infested plants bands of hay loosely twisted. These act as traps, for the weevils use them as shelter places; the bands are removed every morning and burnt, with their collection of weevils.

Against the grubs in the soil, boiling-water used carefully may prove effective. The grubs are destroyed by vaporite, which is worked into the soil. It may be obtained from Mr G. F. Strawson, 71-A Queen Victoria Street, London.

GROUND BEETLES ON STRAWBERRIES.

Several times during the season specimens of strawberries badly gnawed were sent to me, along with the beetles which had caused the damage. These were two ground beetles—*Pterostichus* or *Omasus vulgaris* and *Harpalus ruficornis*.

P. vulgaris is a black beetle with a somewhat shining appearance. Its thorax is obtuse, rather broader than long, and narrower behind than in front; it has a corrugated groove and two longitudinal depressions. The elytra are striated; there are no flying wings.

H. ruficornis is a winged form. It is pitch-black in colour, with the antennæ and legs red; the antennæ have a yellow pubescence. The elytra or wing-covers are striated, and in fresh specimens show a yellow-grey pubescence. Both beetles measure somewhat over half an inch.

The Ground Beetles, or Family Carabidæ, as a family, are both in adult and larval stages predaceous, attacking other insects in the soil both adult and larva. They are nocturnal in habit. Their head is narrower than the body, and has the antennæ springing from between the base of the jaws and the eyes. The legs are slender and fitted for running. The grubs of the Ground Beetles have an elongated body, with biting jaws and six legs. Although the general habit is predaceous, the two beetles named above have, along with another, *Pterostichus* or *Steropus madidus*, been proved to be destructive to strawberries; while another, *Zabrus gibbus*, is destructive to corn and root crops.

Treatment.

The beetles shelter in the strawberry beds during the day, under cover of the surface soil, and can be collected on turning over the soil with a trowel and exposing them. The measure that so far has met with most success is quoted by the late Miss Ormerod as follows: "A number of cheap pudding-basins were let into the ground, level with the surface, at distances of a few yards apart, and kept baited with pieces of lights and sugar-water. When the weather was dry, half-a-basinfal of a night were often caught, until the number diminished gradually to two or three, and now none at all. It is a laborious process, but well worth the trouble."

THE BLACK CURRANT GALL-MITE—*Eriophyes ribis*.

This enemy of the black currant buds continues to be a great scourge up and down the country. Most black currant growers are familiar with the swollen buds that indicate the disease. The buds swell greatly beyond their normal size, owing to the presence in them of—it may be in large numbers—tiny worm-like mites, which irritate the tender leaves of the bud with their piercing and biting mouth-parts. The great importance of the knowledge of the life-history of a pest in revealing the stage or stages when treatment can be best applied has received in economic zoology many illustrations, and now is likely to be again illustrated in the case of the Black Currant Gall-Mite.

Speaking generally, it may be said that the majority of the mites are quite safe from any treatment in the form of wash or spray, from the late summer right on till the next spring, as during all this time the mites are safely ensconced under the protecting scales and leaves of the unopened buds. In the spring, say in March in a favourable season, some of the buds not too badly infested will open out, and the mites hitherto enclosed will now be deprived of their shelter-places. Such will probably begin to wander over the shoots, and probably most of these will perish.

The real migration for the year does not begin till a little later, and it takes place from badly-infested buds, which do not open on account of their having been spoiled. The mites begin to leave these dried and withered buds in April, the migration increasing in intensity on through May, and shading off as June progresses. These migrating mites pass into the new buds, between the scales and leaves of which they worm themselves, and the females proceed to their egg-laying.

It will have been deduced, then, from the foregoing, that for treatment against the mites to be effective, the vulnerable stage in the mite life-history is during the migration when the mites are exposed, before they reach new shelter-places. There have been some extremely encouraging experiments directed against the mite in badly-infected districts in the middle of England. These experiments have been supervised by Mr W. E. Collings, who believes that treatment with sulphur and lime at the migration period, if done carefully and thoroughly, will result in a cure.

Treatment.

Spraying the bushes with a mixture of 1 lb. sulphur, 1 lb. lime, and 20 gallons of water gave good results; but the best results were got by dusting with lime and sulphur. Mix together one pint of unslaked lime and two pints of flowers of sulphur. Dust this on the bushes when they are wet, at least three times, say in the first days of April, again in the middle or just after the middle of April, and again at the end of the first week of May or a little later, according to the season.

If any black-currant growers hitherto troubled with, and it may be beaten by, the mite, will try this treatment over a period of two seasons and report to me the result at the end of each season, I will collate the results and publish them in the 'Transactions.'

THE CORN-WEEVIL—*Calandra granaria*.

In the 'Transactions' of 1905 and of 1906 I made mention of this beetle as a pest in grain, and gave the treatment that proved most satisfactory against it. There has often been discussion as to the conditions of air and temperature and moisture under which the weevils would flourish, and with these points in view, and also to obtain some idea of the length of life of *Calandra granaria* in the adult stage, I made some experiments.

The life-history of the weevil may be briefly stated. The female lays her eggs—one egg to a grain—in a hole made in the grain, and the larva on hatching feeds on the contents of the grain, and when full fed becomes a pupa in the somewhat hollowed-out grain. The mature weevil issues from this grain. Not only is the grain injured by the feeding of the larva, but the adult weevils spoil many grains in their feeding. The length of the generation from the laying of the eggs to the development of the perfect beetle varies much with the conditions; but at a temperature of 80° Fahr., and with other conditions favourable, the whole life cycle can be completed in less than a month.

Experiments with Calandra granaria.

On June 2, 1905, I bred out from some wheat mature beetles and kept them all together until July 31, at which date all were alive. The beetles numbered 24, and with these 24 I started an experiment which might end in information as to length of life of the adult and the possibility of breeding in a confined space. For confining the beetles I used glass tubes 4 inches long by $1\frac{1}{4}$ inch broad, except in three cases where the tubes were 3 inches long by $1\frac{1}{4}$ inch broad. The tubes were half or three-quarters filled with grains of wheat and 12 beetles added to each. The wheat grains were chosen from material that had been lying enclosed in a glass jar for a long time, and the only moisture they contained was what chanced to be present naturally in the grain. Each tube was securely corked, and the cork not removed until each tube fell to be emptied and the beetles removed to fresh feeding-material.

The results may be summarised as follows:—

Description of Tube.	Number of Weevils in Tube.	How long in Tube.	Mortality at date of removal.	Placed in Tube thus marked.	Remarks, with proof that there had been egg-laying.
A	12	July 31 to	all alive	C	Larvæ found on dissection.
B	12	Aug. 14, 1905	do.	D	do.
C	12	Aug. 14 to	do.	E	do.
D	12	Aug. 19, 1905	do.	F	do.
E	12	Aug. 19 to	do.	G	do.
F	12	Sept. 25, 1905	do.	H	do.
G	12	Sept. 25 to	do.	K	do. and beetles allowed to issue.
H	12	Oct. 7, 1905	do.	L	do.
K	12	Oct. 7 to	do.	M	do.
L	12	Nov. 10, 1905	do.	N	Pupæ almost ripe and beetles on dissection.
M	12	Nov. 10 to	do.	O	Larvæ found on dissection.
N	12	Dec. 2, 1905	do.	P	do.
O	12	Dec. 2 to	do.	Q	do.
P	12	Jan. 8, 1906	do.	R	do.
Q	12	Jan. 8 to	do.	S	do. and 67 adults in December 1906.
R	12	Feb. 12, 1906	one dead	T	80 adults in Dec. 1906.
S	12	Feb. 12 to	do.	U	25 do.
T	11	Feb. 24, 1906	all alive	V	81 do.
U	11	Feb. 24 to	do.	W	5 do.
V	11	March 15, 1906	do.	X	9 do.
W	11	March 15 to	6 dead	Y	76 do.
X	11	April 3, 1906	all alive	Z	134 do.
Y	5	April 3 to	do.	1	14 do.
Z	11	April 25, 1906	do.	2	24 do.
1	5	April 25 to	one dead	3	found on dissection no sign of egg-laying.
2	11	June 2, 1906	2 dead	4	80 beetles in Dec. 1906.
3	4	June 2 to	one dead	5	found on dissection no sign of egg-laying.
4	8	July 19, 1906	4 dead and 4 escaped from confinement	..	do.
5	3	July 19 to August 4, 1906	3 dead	..	do.

The destiny, then, of the 24 *Calandra granaria* with which the experiment started is—

- 1 died between 7 and 8 months old.
- 1 do. 8 and 9 do.
- 6 do. 9 and 10 do.
- 3 died at 11 months old.
- 1 was accidentally killed when 12 months old.
- 5 died over 12 months old.
- 4 escaped from confinement when over 12 months old.
- 3 died between 13 and 14 months old.

24

It will be further observed that right on from the beginning of the experiment eggs were continually laid—the beetles laying continually for a whole year. The tubes containing the beetles were kept in the warm months of the year in an unheated room, but on the coming of cold the tubes were kept in my study, a room where there was a fire in the daytime. In some of the tubes examined in December 1906 there was much mould, the result of the moisture inherent in the grain with the frass or excrement of the feeding grubs and adult weevils.

THE BEAN BEETLE—*Bruchus rufimanus*.

A sample of beans intended for seeding was sent to me very badly infested with this beetle. The beans showed the characteristic little round patch on the outer skin, below which the beetle on dissection was found lying. Infested seeds should not be sown unless previously treated, as the beetles will issue in due course and proceed to their egg-laying on the very young pods, pushing their way into the blossom for this purpose. Very badly infested seed—I have found some that contained as many as five beetles—may not germinate, and even if germination does take place the germination stage may be lengthened out and the resulting plant be poor.

Remedial Measures.

As I mentioned in last year's 'Transactions,' the pest may be killed in the bean by fumigating with bisulphide of carbon. The method is to enclose the beans in an air-tight box and then to place some bisulphide of carbon in a saucer or saucers laid on the top of the beans. Keep the air-tight receptacle shut for forty-eight hours. If large quantities are being dealt with, 1 lb. of bisulphide of carbon will do for 100 bushels of seed; for smaller quantities 1 ounce of bisulphide of carbon to every

100 lb. of seed. This treatment has best results as soon after harvesting as possible, when the temperature is not too low. The fumes of bisulphide of carbon are poisonous and easily inflammable, therefore they should not be breathed by the operator, nor should a naked light of any kind be brought near them.

Where beetles are noticed in the beans at the time of sowing, they may be killed by dipping the seed for five seconds in boiling water; the seed is then passed through cold water before sowing.

THE PINE SAW-FLY—*Lophyrus pini*.

Several times during the summer the caterpillars of this saw-fly were sent to me as destructive to the leaves of the Scots and Austrian pine. The caterpillars which come from eggs laid in the needles of the tree are social, feeding together in clumps.

As the infested plants are often not very tall, the caterpillars come within reach of treatment, so that they may be squeezed or crushed in the gloved hand, or between two small flat boards fitted for the purpose. They can also be jarred or shaken down off the trees. The caterpillars are light-green to begin with; are, later, brown-green with dark markings down the sides of the body; the head is dark-brown; there are twenty-two legs.

Parthenogenesis in the Pine Saw-fly.

Parthenogenesis, or virgin birth, the hatching out of eggs that have not been fertilised, is a normal phenomenon in certain insects—*e.g.*, the Aphides. In the Order Hymenoptera to which the Pine Saw-fly belongs, parthenogenesis is well known, and to clear up the point in the case of the Pine Saw-fly I last year made a series of experiments. During the winter of 1904-05 I obtained many cocoons of the Pine Saw-fly. These I arranged in spring under a series of glasses—one cocoon under each glass—for the issue of the adult insects. Altogether, I bred out 15 males and 101 females. The males, as each appeared imprisoned under the glass, were placed in alcohol, while the females were saved for experiment. I need not describe the details of the method of experiment, save to say that in every case the pines with which the virgin females were imprisoned were live young plants, from four to six years of age. The females laid eggs in many cases. Sometimes the eggs remained unhatched, but in a large number of cases caterpillars duly hatched, and after feeding greedily pupated in their cocoons. In one case where five females had been placed on a pine in the last week of April, the eggs laid hatched out in May. Between July 1 and July 8 four of these caterpillars were full grown and had made their cocoons. There

issued four males from these—viz., one male on July 21, one on July 22, one on July 23, one on July 24.

Again, on July 19 six virgin females were imprisoned with a pine. Eggs were freely laid. Hatching of eggs followed, and so numerous and greedy were the caterpillars that before the experiment was terminated three other young pines had to be introduced to provide food for them. On September 26 the first cocoon was got, and by October 7, when I ended this experiment, I had 123 cocoons. In addition, there were still feeding caterpillars which had not completed their growth. The 123 cocoons were kept over the winter. The first adults issued on the 1st of June, and by the end of July 102 had appeared, all males. As I had to be away from home for a month, I dissected the remaining cocoons and in every case found a male.

I have mentioned above that parthenogenesis is prevalent in the Order Hymenoptera. The progeny in some species consists both of males and females, as in the Cynipidæ; in some saw-flies from parthenogenetic eggs only females result; in the Pine Saw-fly, males only.

While parthenogenesis is occasional with some Hymenoptera it plays an important part in continuing the species in others. Various problems are suggested by parthenogenesis, and different theories have been put forward to account for it.

In the case of the Pine Saw-fly I do not know that there has been any observations made and recorded as to the relative number of the sexes. In my own general field work with the Pine Saw-fly, I have found when I have bred out the adults from collected cocoons, or after feeding the caterpillars collected in the open, that both males and females were represented, but in the example quoted at the beginning of this note on parthenogenesis, it is interesting to observe that out of the collected cocoons which provided the material for my experiments there were only 15 males to 101 females.

THE LARGE LARCH SAW-FLY—*Nematus Erichsoni*.

The most salient feature in forest entomology for the past year was the devastation on larch in Cumberland by the larvæ of the large Larch Saw-fly. This insect had previously not been mentioned even by name in the literature of wood or forest injury in Britain, and yet its ravages recently in Cumberland have been most harmful. Careful outlook should be kept, therefore, so that the insect be checked at once should it appear elsewhere.

The adult large Larch Saw-fly measures up to $\frac{3}{4}$ of an inch in length, and in spread of wings just less than an inch. The ground colour is black. The head and thorax are black; the first joint of the abdomen is black; then follow joints coloured

red; the end of the abdomen is black. The mouth parts, the two front pairs of legs, except at the part nearest the thorax, and the upper parts of the femora of the hind legs, are reddish or reddish-yellow. The tibiæ are yellowish or pale in the upper parts. The antennæ are nine-jointed and somewhat thick, and taper towards the apex. With a lens the head and thorax are seen to be sparsely and finely pubescent, and the thorax is markedly punctured. The wings are glassy and slightly clouded below the stigma.

The full-grown caterpillar measures three-quarters of an inch or a little over in length. It has a round, black, hairy head. On the upper surface, all down the back the colour is grey-green; the sides are lighter; the under surface is yellowish-green. On the abdominal segments, transverse rows of minute warts with spines may be seen with a lens. The spiracles along each side are brown. The legs are 20 in number—viz., 3 front or thoracic pairs, which are black, and 7 pairs of abdominal legs, which have the colour of the underside of the body.

The castings (excrement) of the caterpillar, which, found under the trees, would be a guide to the presence of the enemy, are longish, cylindrical, and somewhat square cut at the ends.

The cocoon, strong and leathery or parchment-like, is dark-brown in colour; it is cylindrical in shape, with rounded ends; the outside shows a raised network pattern, while the inside is smooth. On an average, the size may be taken as between $\frac{2}{3}$ of an inch and $\frac{1}{2}$ an inch.

Life-history and Habits.

The caterpillars winter under cover of the cocoons, and pupate, generally speaking, in May or June, according to the conditions. Probably the adults begin to issue in June. The eggs are laid in one or two rows on the youngest larch shoots, in slits in the bark made by the saws. The shoots, as a result, may curl somewhat. As the embryo develops, the slits in the shoots gape a little, and through the oval hole the caterpillar creeps, on hatching. The caterpillars may begin by gnawing the single leaves on the young shoot, but they soon pass to the clusters of needles on the dwarf shoots. Single leaves may be eaten, so that the edges appear serrated; or the clusters of leaves may be half eaten, or quite destroyed, so that only stumps are left.

In the young condition the caterpillars may be found in clusters. They assume various positions, arranged with the tail-end curled round the shoot, or like a mark of interrogation or the letter S; or (a characteristic attitude) with the hind half of the body turned upwards and over the front half. The larvæ are to be found at work during the summer, and most numer-

ously in July and the first fortnight of August. By the end of August most have left the trees. Some, however, do not complete their growth until September. When full-fed the caterpillars leave the trees and pass into the moss or litter or the soil, and in such shelter-places make the cocoon in which they pass the winter.

Attack may be on young plants, but it is more frequently on older and taller trees. In Cumberland the trees infested were from twenty to seventy years of age.

Preventive and Remedial Measures.

1. As against the adults scarcely anything can be done effectively. They lay high up, well out of reach, so that the placing here and there of tarred boards standing erect, and with the tar frequently replenished—a measure sometimes practised against saw-flies that lay on young plants—cannot be tried with hope of success.

2. If young trees chance to be infested with the caterpillars, these caterpillars—especially when they are small and in clusters—should be crushed in a gloved hand or rubbed off the shoots into a small hamper; or badly infested shoots could be snipped off or cut through and dropped into the hamper. The contents of the hamper are then emptied on to a slow-burning fire. This measure, practised successfully against the Pine Saw-fly, will often be quite impracticable against the caterpillars of the large Larch Saw-fly, feeding as these do out of reach.

3. Jarring, so as to shake down larvæ, would meet with most success on a dull day or early in the morning, when the caterpillars are cold and sluggish.

4. Where the caterpillars are out of reach, and the tree attacked is isolated, or where the infestation is limited, the trees should be sprayed with hellebore, or Paris green, or arsenate of lead.

5. When infested trees are felled, the dislodged caterpillars should be destroyed.

6. The cocoon stage comes within reach of practicable treatment if the infested area be not too wide. The litter and the surface soil below trees that were attacked could be ploughed in deeply so as to bury the cocoons; or, in a prescribed area, boys could be employed to collect the cocoons. The soil and litter might be collected in little heaps; then quicklime could be placed on these, followed by a sprinkling with water, when the heat engendered would kill the enclosed caterpillars.

7. There is some help from Nature, as some birds eat the caterpillars, while parasitic ichneumon flies are their active enemies.

MILK RECORDS.

By JOHN SPEIR, Newton, Glasgow.

FOURTH SEASON—Giving the yield in Milk and Butter-fat of 2688 Cows.

DURING the year 1906 there was a considerable increase in the number of owners of stock desirous of having their herds tested under the scheme of the Society. The work was carried out in the following districts:—

District.	No. of herds.	No. of cows.	Interval of tests.	Period over which the testing extended.
			Days.	Weeks.
Cumnock . . .	12	353	14	37
Dumfries . . .	22	742	28	32
Fenwick . . .	18	455	21	51
Rhins of Galloway . .	12	537	14	26
Stewartry . . .	12	601	21	34
Total	76	2688	...	...

In only one district—that of Fenwick—have the tests been continued throughout a full year. In the other districts a good part of the season has often been lost before a start could be made. In some cases the arrangements were not sufficiently advanced to permit of a start in time, while in others it was purposely delayed in order to reduce the expense. In the districts of smaller herds the expense is a considerable item, especially when reckoned per cow. The increased return obtained from one average cow over that of a single poor one which has been got rid of, will more than pay all the expense of testing the whole herd. In even the smallest of the herds one or more poor cows have been disposed of, and in several the number has been considerable.

Interval between Tests.

The natural desire to reduce expense has led to an increase of the interval between the testings at several of the stations. In order to find out what might be the probable error from this extension of the interval, I have spent a considerable time in comparing daily weighings with those taken every 7th, 14th, 21st, or 28th day. For this purpose details have been obtained

from the Dairy School at Kilmarnock, where the milk of each cow was weighed and sampled twice daily from 1st April to the end of September. Very valuable details have also been obtained from Mr James L Duncan, late of Bute, and now in charge of the farm school at Clonakilty, Co Cork, belonging to the Department of Agriculture and Technical Instruction for Ireland. A similar set of figures have also been received from Mr Robert Wilson, Burnhouse, Dunlop, for his small herd of eight cows

In the three foregoing cases weighing was done twice daily. At Kilmarnock a sample of the milk was taken twice daily, but in the other two cases I have no knowledge of what was done in that respect. Sir Hugh Shaw Stewart, Bart, has also furnished me with the figures of three of his cows, where the milk is weighed every seventh day. From the material so provided it has been possible to construct tables showing the amount of milk certain animals in these herds would have been credited with had the milk been only weighed every 7th, 14th, 21st, or 28th day. In the case of the herds where no note was taken of fat in the milk, or if so was not given to me, the estimate of the yield by weighings at various intervals works out as follows:—

CLONAKILTY FARM SCHOOL HERD ACTUAL YIELD COMPARED WITH
THAT ESTIMATED FROM EVERY 7TH, 14TH, AND 21ST DAY

No of cow	Milk weighed twice every day	Milk weighed every 7th day then multiplied by 7		Milk weighed every 14th day then multiplied by 14		Milk weighed every 21st day then multiplied by 21	
	Gallons	Gallons	Error	Gallons	Error	Gallons	Error
1	760 0	780 9	+20 9	771 0	+11 0	765 0	+5 0
2	860 0	871 6	- 8 4	847 0	-13 0	875 0	+15 0
3	969 7	973 0	+ 3 3	954 0	-15 7	966 6	+16 9
4	840 0	831 9	- 8 2	864 8	+24 8	827 0	-17 0
5	651 0	657 0	+ 6 0	682 0	+31 0	661 5	+10 5
6	666 0	645 8	-20 2	671 0	-16 0	657 3	- 8 7
7	632 3	649 2	+17 9	636 5	+ 4 2	656	+26 2
8	896 0	881 4	-14 6	890 3	- 5 7	912 0	+16 0
Average	784 4	783 8	- 6	787 1	+2 7	792 7	+8 3
Heifers							
9	491 0	476 0	- 15 0	490 9	- 1 1	489 5	- 1 5
10	506 0	526 8	+20 8	511 0	+ 5 0	519 6	+13 6
11	433 2	461 8	+ 28 6	465 0	+21 8	450 6	- 26 6
12	408 2	409 5	+ 1 3	384 0	-24 2	415 0	+ 6 8
13	407 7	413 0	+ 5 3	401 6	- 6 1	405 1	- 2 3
Average	452 0	457 4	+5 4	448 5	-3 5	456 0	+4 0
Average of—							
Over estimates	656 5	658 3	+10 5	656 9	+12 6	663 3	+13 0
Under estimates			-12 0		-13 6		- 6 7
The whole			+ 1 8		+ 4		+ 7 8

7-day Periods of Weighings.

In the 7-day interval the average error over 8 cows, compared with the actual yield, is only—6 gallons; in the 14-day period the error is an increase of 2·7 gallons; and in the 21-day period the average error is an increase of 8·3 gallons per cow on the year. Taken over a sufficiently large number of animals, the errors would no doubt in great part disappear. The value of the milk records does not, however, lie in accurate averages for herds, but in reliable returns for each individual cow; and while the averages are interesting, they are almost useless in the present inquiry. The information wanted is the maximum amount of error per cow which may occur by estimating the yield of milk per annum from weighings at various intervals.

In the 7-day period the cows have varied from an over-estimate of 20·9 gallons to an under-estimate of 20·2 gallons, and the heifers from an over-estimate of 20·8 gallons to an under one of 8 gallons—the average being 10 to 12 gallons, or under 2 per cent of error.

In the Burnhouse herd a most unusual occurrence happens,—every estimate, for not only this period but for all the others, being under-estimates.

HERD OF MR ROBERT WILSON, BURNHOUSE, DUNLOP.

No. of cow.	Milk weighed twice every day.	Milk weighed every 7th day, then multiplied by 7.		Milk weighed every 14th day, then multiplied by 14.		Milk weighed every 21st day, then multiplied by 21.		Milk weighed every 28th day, then multiplied by 28.	
	Gallons.	Estimated gallons.	Error in gallons.	Estimated gallons.	Error in gallons.	Estimated gallons.	Error in gallons.	Estimated gallons.	Error in gallons.
1	1216	1161	-55	1161	-55	1141	-75	1151	-65
2	1077 ^x	...	...	...	...	...	...	...	...
3	811	805	-9	789	-25	803	-11	766	-48
4	908	892	-15	889	-18	868	-40	875	-33
5	992	959	-33	940	-52	934	-58	921	-71
6	838	829	-8	815	-22	807	-30	781	-58
7	765	760	-5	760	-5	690	-75	735	-30
8	935	917	-18	901	-34	891	-44	868	-68
Average of 7	924	903	-21	895	-29	876	-48	871	-53

^x Figures incomplete.

The variations for this herd are mostly wide, which, coupled with the fact that they are all under-estimates, seems to indicate some discrepancy in the results or extreme excitability

among the cows. The average error is 21 gallons, about $2\frac{1}{2}$ per cent on the quantity of milk, but the maximum error is 55 gallons on 1216 gallons—a deficiency of about $4\frac{1}{2}$ per cent.

14-day Periods of Weighing.

In the 14-day period, the average of the whole herd at Clonakilty differed very little from the actual figures; but the average of the over-estimates was 12·6 gallons, while that of the under-estimates was 13·6 gallons, the maximums being double these figures in both cases. The variation between this period and the 7-day one does not exceed 2 gallons extra either way.

ARDHOWAN HERD, BELONGING TO SIR HUGH SHAW STEWART, BART.

		Milk weighed every 7th day, then multiplied by 7	Milk weighed every 14th day, then multiplied by 14.	Difference in gallons.
		Gallons.	Gallons.	
*Jessamine	. .	1241	1257	+ 16
Dainty	. .	594	626	+ 32
Bella	. .	682	702	+ 20
<hr/>				
Average .	.	639	862	+ 23

This cow is not in calf

The weight of milk here was estimated from weighings every 7th day, and when the 14th day estimates are compared with these, there is an average increase of 23 gallons of milk. This is a greater difference than at Clonakilty or at Burnhouse, and may be accounted for by the small number of animals on which it is based, as the maximums are just about the same as at these two places.

At Burnhouse the average error is 29 gallons per cow, or fully 3 per cent on the milk yielded, while the maximum error is about $4\frac{1}{2}$ per cent of an under-estimate.

21-day Periods of Weighing.

At Clonakilty the average error during this period was only 7·8 gallons per cow per annum, while the average of the over-estimates was 13 gallons, and that of the under-estimates 6·7 gallons. These figures seem to indicate careful weighing and quiet-tempered cows.

At Burnhouse the average error during this period was 48 gallons of an under-estimate, the maximum error being about 1 per cent greater than for the 14-day period.

28-day Periods of Weighing.

These are comparable only for the Burnhouse herd. For this period the average error is not very much greater than for the previous period, but it will be noticed that it is almost double that of the 14-day period. The maximum errors are, however, scarcely so great as that for the 21-day period, but neither of these can be much relied on, owing to the small number of animals dealt with.

The Dairy School Herd.

During the period that the Dairy School was open, the milk of the whole herd of 42 cows was weighed and sampled twice every day from 2nd April to 29th September. For three-fourths of the cows the milk of each night and morning was not tested daily, but a sample was taken, all for each week being mixed together. This composite sample was tested at the end of each week. The whole of the daily weighings and testings of these cows have been sent to me, and I find that they afford an excellent opportunity of comparing the relative value of weighings at close and wide intervals. The results are given in gallons, calculated out to an equivalent of 3 per cent of fat, as being easier followed than where gallons and percentage of fat are given separately. The weight of milk yielded by a cow is much more steady and uniform than the percentage of fat. It is therefore natural to suppose that when the two are combined into the equivalent of milk of 3 per cent of fat, the variation will be greater than where weight of milk is alone taken into account. It may also be assumed that, where the percentage of fat in the composite sample is taken as the average for the week, the results will be much more uniform and steady than where the percentage of fat for one particular day is alone recorded, and calculated at that for the whole interval between the weighings.

From the following table it will be seen that the possibilities of error become greater as the intervals between the weighings and testings are widened. Not only is this clearly shown in the averages, but in the maximum errors above or below the actual amount. The proper method of estimating these is probably to add both the + and - figures together. These would seem to indicate that the possibilities of error are something like doubled when an interval of 7 days is compared with that of 21 days, or one of 14 days with that of 28 days.

RECORD OF THE MILK YIELDED BY CERTAIN COWS AT THE DAIRY SCHOOL, KILMARNOCK, WEIGHED AND TESTED EVERY DAY, COMPARED WITH AN ESTIMATE OF THE SAME FROM WEIGHING AND TESTING THE MILK EVERY 7TH, 14TH, 21ST, AND 28TH DAY.

No. of cow.	Actual milk of 3 % of fat in galls.	Every 7th day.		Every 14th day.		Every 21st day.		Every 28th day.	
		Milk of 3 % of fat in galls.	Error in galls.	Milk of 3 % of fat in galls.	Error in galls.	Milk of 3 % of fat in galls.	Error in galls.	Milk of 3 % of fat in galls.	Error in galls.
5	636	632	-4	635	-1	660	+24	652	+16
11	565	556	-9	574	+9	583	+18	613	+48
20	608	599	-9	609	+1	634	+26	641	+33
30	736	733	-3	752	+19	779	+43	782	+46
37	673	666	-7	694	+21	714	+41	724	+51
Average of—									
The whole	643	637	-6	653	+10.0	674	+30.4	682	+39
Over-estimates {			-6		+12.5		+30.4		+39
Under-estimates {			-9		-1.0		+43.0		+51

COW 27, DAIRY SCHOOL.

Date.	Every 7th day.			Actual milk of 1 % of fat in lb. per week.	Every 14th day.	Every 21st day.	Every 28th day.
	Milk daily in lb.	Per cent of fat.	Milk of 1 % of fat in lb.				
1906							
April 25	34.75	3.55	123.36	826			
May 2	35.75	3.3	117.97	840	117.97		
" 9	34.75	3.4	123.36	799		123.36	
" 16	35.25	3.1	109.27	850	109.27		109.27
" 23	38.75	2.85	96.19	798			
" 30	39.75	3.22	127.99	985	127.99	127.99	
June 6	45.75	3.6	164.70	1172			
" 13	47.25	4.0	190.00	1056	190.00		190.00
" 20	43.5	2.3	121.80	944		121.80	
" 27	40.25	2.9	118.72	952	116.72		
July 4	36.75	3.45	126.79	825			
" 11	34.5	3.75	129.37	833	129.37	129.37	129.37
" 18	29.75	2.40	71.40	755			
" 25	30.75	2.85	87.64	678	87.64		
Aug. 1	27.5	3.60	99.00	537		99.00	
" 8	25.75	2.15	55.36	517	55.36		55.36
" 15	27.25	2.60	70.85	504			
" 22	27.25	2.35	63.94	501	63.94	63.94	
" 29	23.50	3.80	89.30	604			
Sept. 5	26.25	3.40	89.25	624	89.25		89.25
" 12	25.50	2.70	68.85	616		68.85	
" 19	26.50	2.95	58.17	508	58.17		
			2301.28 × 7		1145.68 × 14	734.31 × 21	573.25 × 28
						15,420.51 + 407.19	16,051.00 + 889.14
Lb. of milk of 1 % of fat			16,108.96	16724	16,039.52	15,827.70	16,940.14
" " 3 % " "			5,369.6	5575	5,346.5	5,275.9	5,646.7
Gallons of milk			536.9	557.5	534.6	527.6	564.6
Difference			-20.6		-22.9	-29.9	+7.1

The milk record for the Dairy School herd was begun as much for the training of students in the weighing and testing of milk as for the obtaining of information regarding the herd. During the time the work was carried on, the milk of ten of the cows was *weighed and tested* at every milking between 22nd April and 22nd September. The particulars relating to five of these cows have been collected from the byre-sheets and tabulated in such a manner that the actual yield for the period under review may be compared with an estimate made of the quantity from weighings and testings taken at intervals of 7, 14, 21, and 28 days. For the purpose of comparison the particular day selected was Wednesday, as being the middle day of each recorded week, and as less liable to irregularity than those at the end or beginning of the week. Details for Cows 27, 28, and 30 are given in the tables.

COW 28, DAIRY SCHOOL.

Date.	Every 7th day.			Actual milk of 1 % of fat in lb. per week.	Every 14th day.	Every 21st day.	Every 28th day.
	Milk daily in lb.	Per cent of fat.	Milk of 1 % of fat in lb.		Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.
1906							
April 25	35.75	3.10	110.82	800			
May 2	38.00	3.45	131.10	861	131.10		
" 9	36.00	2.85	102.60	842		102.60	
" 16	38.0	3.55	134.90	891	134.90		134.90
" 23	40.75	3.5	162.62	919			
" 30	33.50	2.3	77.05	893	77.05	77.05	
June 6	40.75	3.4	138.55	993			
" 13	36.5	3.3	120.45	927	120.45		120.45
" 20	36.0	5.65	203.40	867		203.40	
" 27	36.5	3.7	135.05	928	135.05		
July 4	31.25	3.15	98.44	825			
" 11	32.25	3.8	122.55	812	122.55	122.55	122.55
" 18	29.25	3.65	106.76	791			
" 25	29.50	3.95	116.52	781	116.52		
Aug. 1	29.00	3.95	114.55	736		114.55	
" 8	28.25	4.10	115.82	742	115.82		115.82
" 15	25.25	4.10	103.52	698			
" 22	27.00	3.80	102.60	722	102.60	102.60	
" 29	23.50	4.30	101.05	692			
Sept. 5	21.50	3.50	85.75	627	85.75		85.75
" 12	22.25	3.95	87.89	658		87.89	
" 19	22.25	3.80	74.45	593	74.45		
			2546.44 × 7		1216.24 × 14	810.64 × 21	579.47 × 28
						17,023.44 + 521.15	16,225.16 + 1,136.38
Lb. of milk of 1 % of fat			17,825.08	17596	17,027.36	17,544.59	17,361.54
" " 3 % "			5,941.7	5865	5,675.8	5,848.19	5,787.18
Gallons of milk of 10 lb.			594.2	586.5	567.6	584.8	578.7
Difference			+ 7.7		+ 18.9	- 1.7	- 7.8

COW 30, DAIRY SCHOOL.

Date.	Every 7th day.			Actual milk of 1 % of fat in lb. per week.	Every 14th day.	Every 21st day.	Every 28th day.
	Milk daily in lb.	Per cent of fat.	Milk of 1 % of fat in lb.		Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.
1906							
April 25	35.25	2.75	96.94	706			
May 2	35.75	2.75	98.81	744	98.81		
" 9	36.75	3.00	110.25	787		110.25	
" 16	36.75	3.4	124.95	822	124.95		124.95
" 23	38.75	3.0	116.25	851			
" 30	44.25	2.3	101.77	659	101.77	101.77	
June 6	50.25	3.2	160.80	1033			
" 13	49.00	3.2	156.80	1124	156.80		156.80
" 20	50.00	3.05	152.50	1118		152.50	
" 27	47.5	2.95	140.12	1094	140.12		
July 4	41.25	3.40	140.25	1017			
" 11	41.75	3.60	150.30	980	150.30	150.30	150.30
" 18	32.5	3.60	117.00	966			
" 25	37.75	3.90	147.22	900	147.22		
Aug. 1	38.00	3.75	135.00	921		135.00	
" 8	35.00	3.90	136.50	876	136.50		136.50
" 15	30.25	3.65	110.41	882			
" 22	30.25	3.75	113.44	865	113.44	113.44	
" 29	33.50	4.20	140.70	792			
Sept. 5	26.50	3.85	102.02	747	102.02		102.02
" 12	32.00	3.80	121.60	775		121.60	
" 19	24.75	3.55	87.86	695	87.86		
2760.99 × 7					1359.29 × 14	884.86 × 21	670.57 × 28
						18,582.06 + 615.02	18,775.96 + 1,466.22
Lb. of milk of 1 % of fat				19,326.93	19,304	19,030.06	19,197.08
" " " " " "				6,442.31	6,435	6,343.35	6,399.0
Gallons of milk of 10 lb.				644.2	643.5	634.3	639.9
Difference				+ .7		- 9.2	- 3.6
							20,242.18
							6,747.39
							674.7
							+ 80.2

The number of cows for which the details have been worked out is too limited to afford a sufficient basis for definitely determining the errors likely to arise from widening the interval between the weighings and testings. Some cows give a tolerably uniform quantity and quality of milk, while others are more subject to irregularities, arising it may be from temperament, bad health, feeding, or climatic influences, and it is clear that the possibilities of error from these irregularities become greater as the intervals are widened. For instance, if the column containing the weight of milk of 1 per cent of fat be scanned in the foregoing tables, it will at once be seen how great these irregularities may at times amount to. Cow No. 28 is the most pronounced in that respect, while No. 30 is the least. Any interval which includes one or more of the dates on which abnormal amounts were recorded will cause the estimate to differ from the actual amount in proportion

to the number of these dates. The following table shows the averages and maximum errors of the estimates of the yield of milk of these five cows, made up from weighings at various intervals:—

RECORD OF THE MILK YIELDED BY CERTAIN COWS AT THE DAIRY SCHOOL, KILMARNOCK, WEIGHED AND TESTED EVERY DAY, COMPARED WITH AN ESTIMATE OF THE SAME FROM WEIGHING AND TESTING THE MILK EVERY 7TH, 14TH, 21ST, AND 28TH DAY.

No of cow	Actual milk of 3 % of fat in galls of 10 lb.	Every 7th day.		Every 14th day.		Every 21st day.		Every 28th day.	
		Milk of 3 % of fat in galls. of 10 lb.	Error in galls.	Milk of 3 % of fat in galls. of 10 lb.	Error in galls	Milk of 3 % of fat in galls. of 10 lb.	Error in galls.	Milk of 3 % of fat in galls. of 10 lb.	Error in galls
27	557.5	536.9	-20.6	534.6	-22.9	527.6	-29.9	564.6	+ 7.1
28	536.5	594.2	+ 7.7	567.6	+18.9	534.8	- 1.7	578.7	- 7.8
30	643.5	644.2	+ .7	634.3	- 9.2	639.9	- 3.6	674.7	+ 30.2
31	532.0	527.0	- 5.0	521.0	-11.0	518.0	-14.0	523.2	- 9.0
32	495.5	510.0	+15.0	519.0	+24.0	502.3	+ 7.3	513.5	+18.0
Average of—	563.0	562.5	- 0.3	555.3	- 7.7	554.5	- 8.5	572.9	+ 9.9
The whole									
Over-									
estimates	..	..	+ 7.8		+21.4		+ 7.3		+18.4
Under-									
estimates	...	..	-12.8		-14.4		-12.3		- 8.4

If the five cows in the above table be taken as a fair guide as to how irregularities in the cows affect estimates based on the various intervals, they would seem to indicate that the possibilities of error are not so great as was inferred from the previous five cows. They, however, correspond very closely with the maximum differences of the Clonakilty herd, based on the weight of milk alone.

In order to increase the number, and so to some extent get rid of the irregularities which show themselves in the yield of milk of every cow, I have gathered all the herds together into one table for the purpose of ascertaining the probable errors that may occur under estimates made on a basis of weighings and testing made at various intervals. The table on next page gives this information.

The table gives an indication of the extent of the errors which may be expected as the result of weighings at various intervals. A greater number of cows would have been desirable, but at the moment there is no time to prepare statements for a greater number. The following will, however, be some guide to associations when in doubt as to the interval they should adopt between their weighings and testings. Had all the cows from which the figures are taken had their milk

tested at each milking, the deductions drawn from them would have been much more reliable. They are there, however, for what they are worth.

Milk Records for each Herd.

Owing to the increase in the number of cows now being tested, it has been found impracticable to embrace the full details of each herd in this report. These details, together with the matter given here, will be issued in a separate print with as little delay as possible.

AYRSHIRE AGRICULTURAL ASSOCIATION (CUMNOCK).

Under this Association twelve herds, in the parishes of Cumnock, Ochiltree, and Coylton, were tested, the expert in charge being John H. Wyllie. This is the second year during which testing in this district has been carried on. Hitherto the outlays have been entirely paid by the Highland and Agricultural Society and the Ayrshire Agricultural Association. The only expense which the owners of the herds were called on to meet was that of providing food and lodging for the expert, and of conveying him and the testing appliances from farm to farm. The following is a list of the owners of the herds tested, arranged in the order in which they were visited by the expert:—

Michael Logan, Bargenoch, Coylton.
Messrs Knox, Lane, Coylton.
Hugh Smith, Whitehill, Coylton.
R. Steele, M'Quittiston, Ochiltree.
A. W. Montgomerie, Lessnessock, Ochiltree.
Andrew Wilson, Finlaystone, Ochiltree.
D. & H. Wilson, Auchencloich, Ochiltree.
Robert Vallance, Calton, Cumnock.
J. H. Stevenson, Rottenyard, New Cumnock.
A. M. Baird, Garclaugh, New Cumnock.
W. Sloan, Castlemains, New Cumnock.
James Donaldson, Auchencross, New Cumnock.

Testing began on 20th March and continued to 3rd December, covering a period of 38 weeks, each farm being visited every 14 days. In order to give a fairly full record of the milk production of the cows, testing should have begun at the 1st of March, as too many of the cows had been calved over 14 days before the herds were first visited. For herds of the class of those in this district, an endeavour should be made to begin with the first farm when between one-third and a half of the cows are calved. With this done, from a half to three-

fourths of the cows will be giving milk by the time the last farm is reached, and if continued till about the same date as this year, a period of from 41 to 42 weeks will be covered. Such an interval, while it may not embrace the full period of lactation of every cow, will give a pretty full record of about three-fourths of them.

There were 353 cows tested in this district, the herds here being somewhat smaller than those in several of the other districts reported on. Some of the herds here did remarkably well last year, but this year they have done even fully better than the previous one. The period covered is this year a month longer than in 1905; but even with that taken into account the results are very satisfactory, and had an extra month been taken advantage of at the beginning of the season, they would have been much more so. All the farms are largely devoted to breeding, the milk being principally made into cheese, but in one or two instances it is sent by rail to Glasgow. This is a typical district for carrying on work of this kind, and, fortunately, the farmers of the district are fully alive to the advantages to be gained from it, so that its influence should gradually show itself in improvement in the milk-yield of the herds.

The following are some of the most profitable cows:—

24 OF THE MOST PROFITABLE COWS IN THE CUMNOCK DISTRICT.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent. of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
D	13	920	38.6	4.5	1382	23 15 10	9	L	April 10	...
N	19	967	38.0	4.2	1355	23 4 7	6	L	" 5	...
N	13	1099	56.9	3.6	1318	27 9 2	9	L	June 6	...
D	14	801	33.7	4.6	1245	25 18 9	9	L	April 11	...
N	2	977	35.7	3.7	1204	25 1 8	9	L	Feb. 19	...
N	7	959	35.7	4.2	1195	24 17 11	5	L	March 8	...
N	30	857	41.3	3.9	1147	23 17 11	3	L	May 9	...
N	25	831	30.8	4.1	1136	23 13 4	3	M	Feb. 13	...
L	20	726	30.5	4.6	1114	23 4 2	6	L	March 23	...
F	8	892	33.6	3.6	1091	22 14 7	10	...	" 4	...
J	6	837	31.5	3.8	1067	22 4 7	6	M	" 5	...
N	15	837	39.3	3.8	1061	22 2 1	7	M	May 18	...
N	23	874	36.0	3.6	1049	21 17 1	10	L	Feb. 14	...
N	16	774	31.7	4.0	1032	21 10 0	6	M	" 20	...
F	14	825	31.0	3.7	1028	21 8 4	6	...	March 20	...
D	11	724	28.7	4.1	1005	20 18 9	11	L	Jan. 27	...
J	33	733	33.0	3.5	999	20 16 3	8	L	April 10	...
N	21	906	35.8	3.3	997	20 15 5	11	L	Feb. 24	...
D	19	858	32.3	3.4	994	20 14 2	7	M	Jan. 27	...
D	10	835	31.3	3.5	987	20 11 3	6	L	Feb. 28	...
N	3	775	36.9	3.8	986	20 10 10	6	L	May 14	...
N	29	721	27.3	4.1	985	20 10 5	3	L	March 23	...
J	27	790	29.6	3.8	979	20 7 11	11	L	" 12	...
A	18	890	33.5	3.2	967	20 2 11	6	L	" 16	...

The best cow in this list has only the produce of 34 weeks milk put to her credit, as she was uncalved at the first two visits of the expert, and on the last occasion on which she was tested she was giving 2 gallons of milk per day of an average of 5.1 per cent of fat. Notwithstanding this good result, this cow was served about seven weeks after calving. Had it been convenient to carry on the work long enough to give a complete record of this cow's milk, she would have given as much by that time as two cows in many ordinary herds. The high percentage of fat in the milk produced by a considerable number of the cows in this herd is rather remarkable. The remarks which have been made regarding cow D 13 apply in a somewhat less degree to cow N 19, the milk of which has been recorded for 34 weeks, and which was served within eight weeks after calving, and at the last visit of the expert gave almost $1\frac{1}{2}$ gallon of milk per day of an average percentage of fat of 4.9. Cow N 13 is also a remarkable cow. Her milk was only weighed for 26 weeks, but over that period she gave an average of 56.9 lb. of milk daily. She was served two months after calving, yet on 5th December she yielded 39.4 lb. of milk of 3.1 per cent of fat, which is the lowest percentage of fat she gave during any of the dates on which her milk was tested. Over a period of six testings after calving, with intervals of 14 days, this cow gave from 65 lb. to 70 lb. of milk per day; the lowest percentage of fat was 3.7 and the highest 4.5.

As is nearly always the case, every other herd contains some specimens of the unprofitable cow. The following are a few of those:—

SOME OF THE LEAST PROFITABLE COWS IN THE CUMNOCK DISTRICT.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d per gall. for milk of 3 % of fat	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
A	2	339	17.3	2.9	335	6 19 7	12	L	Feb. 10	...
E	22	356	17.0	3.3	394	8 4 2	6	S	April 19	..
E	27	362	18.4	3.3	400	8 6 8	7	M	May 14	..
M	6	322	17.7	3.9	425	8 17 1	10	..	Feb. 24	..
A	10	407	19.4	3.2	435	9 1 3	11	L	" 16	...
B	11	395	20.2	3.4	450	9 7 6	7	L	" 25	...
J	42	387	19.8	3.5	451	9 7 11	9	L	March 25	{ Dry, early in Oct.

In even a good milking herd, no one need be surprised at a few animals turning out indifferent milkers. The worst of these should be weeded out when young, say at 3 or 4 years old, and not kept till they are 10 or 12 years old, as seems to have been the case with several animals in various herds.

The average yield of 3 per cent milk of the 7 cows in the above table is 413 gallons of milk—an amount which certainly will not pay expenses, leaving profit out of account. I am not inclined to put too much stress on comparisons between herds in different parts of the country, but this is an instance where the owners of these herds might profitably compare their circumstance with those of their neighbours, and see if there is anything in the soil or situation to account for the inferiority of these animals. On two of these farms there are two animals on which their owners must have lost more during the time they have had them than would have paid for the testing of their whole herd for many years. The probability is that these cows have fairly good bodies, and owing to the small quantity of milk they yielded, they might generally remain in good condition. Their owners might know that they were not particularly good milkers, but it is almost a certainty that had they been aware that they were so unprofitable as they seem to be, they would not have been kept on so long as they have. Their good looks have saved them, while other better milkers, with less appearance, have evidently been sacrificed.

The heifers are a particularly good lot. There were 84 of them, of which 70 were three-year-olds and 14 were two-year-olds. For 12 of this number, with several close behind, to be able to yield from 716 gallons of milk of 3 per cent of fat up to 1147 gallons in the period during which they were under test, clearly indicates the possibilities of the breed, and holds up for our admiration an ideal after which every breeder can strive, even although he may not be able to attain to it.

12 OF THE MOST PROFITABLE HEIFERS IN THE CUMNOCK DISTRICT.

	No. of cow.	Total milk in gall.	Average milk per day in lb	Average per cent of fat.	Total milk of 3% fat in gall	Value of the produce at 5d. per gall for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS
						£ s. d.				
N	30	857	41.3	3.9	1147	23 17 11	3	L	May 0	
N	25	831	30.8	4.1	1186	23 13 4	3	M	Feb. 13	
N	29	721	27.3	4.1	985	20 10 5	3	L	March 28	
N	26	743	27.7	3.9	965	20 2 1	3	M	Feb	
N	24	612	25.4	4.4	897	18 13 9	2	L	April 16	
D	17	513	19.3	4.9	836	17 8 4	3	L	Jan. 15	
N	22	628	25.9	3.8	795	16 11 3	3	L	{ Dec. 27, 1905 }	
D	25	498	19.8	4.7	789	16 8 9	3	M	Jan. 2	..
J	17	597	23.7	3.8	755	15 14 7	3	L	March 12	...
D	26	473	18.8	4.7	743	15 9 7	3	M	{ Dec. 10, 1905 }	Dry, middle of Nov.
H	29	566	27.0	3.8	717	14 18 9	3	M	May 10	
J	10	602	22.6	3.5	716	14 18 4	3	L	March 15	

The heifer N 30 had her milk weighed and tested for 28 weeks only: had her yield for the whole period of her lactation been included, it would have amounted to a very large quantity, and might have run some of the better cows very closely. At the last weighing on 5th December, this heifer gave 29·7 lb. of milk of an average of 3·9 per cent of fat. For three testings, between 6th June and 4th July, she gave 57 lb., 57·5 lb., and 55 lb. of milk, averaging 4·0 per cent of fat on two occasions and 3·5 per cent on the other. There is a big field here for watching the breeding of the best animals; for, owing to the age at which bulls are generally discarded in Ayrshire, many of the best breeding bulls, from a milking point of view, must have been slaughtered long before their good qualities had become known.

THE DUMFRIESSHIRE DAIRY FARMERS' ASSOCIATION.

The work under this Association embraced 22 herds in the valleys of the Nith and Annan, the number of cows being 742.

Testing began on 2nd April, and was continued till 10th November, extending therefore over a period of 32 weeks, and embracing 8 visits to each farm. All the herds were either devoted to cheese-making, or cheese-making and milk-selling, or milk-selling alone. The most of the cows on nearly all the farms had been in milk for a considerable time before the work began, so that the time covered by the testing did not embrace the full period of lactation of the majority of the cows. When the work ceased, about three-fourths of them were giving a very small quantity, usually under a gallon per day, and before another visit could have been made to all the herds, a large proportion of them would have been dry. If the work of this Association had begun a month earlier, practically the whole milking period of a very large number of the cows would have been embraced in a period of nine months. For this reason the total yield of many of the herds does not seem so large as it in reality was, because a month at the beginning of the period of lactation adds as much to the total produce of the cow as from two to three at the end. In order, therefore, that individual cows and herds may have every facility given them to exhibit their full milk-producing powers, testing should be begun at the earliest possible opportunity. The herds tested are owned by—

William Lindsay, Cogries, Beattock.

William Mackie, Wamphray Gate, Wamphray.

Sir R. W. Buchanan-Jardine, Saughtrees, Lockerbie.

J. S. Paterson, Quhytewoollen, Lockerbie.

James Edgar, Castlehill, Lockerbie.

James Wyllie, Bankhead, Lochmaben.
John Paterson, Mouswald Grange, Ruthwell.
John Wilson, Boghead, Dumfries.
John Wilson, Tinwaldshaws, Dumfries.
James Lamberton, Sandbed, Dumfries.
James Sloan, Cormaddie, Holywood.
Robert Millar, Lakehead, Closeburn.
W. Niven, Barnmuir, Closeburn.
William Sloan, Shawsmuir, Closeburn.
Robert Primrose, Kirkland, Closeburn.
John Laidlaw, Glengar, Penpont.
J. R. Wallace, Auchenbainzie, Thornhill.
Thomas Brown, Drum, Thornhill.
A. Stevenson, Muirhill, Thornhill.
James Moffat, Gateside, Sanquhar.
A. M. Dickie, Tower, Sanquhar.

All the herds are breeding ones, and both valleys are the very districts in which such organisations should flourish. The success of this scheme, as that of many others elsewhere, in great part depends on the enthusiasm and energy of those in charge of it, coupled with the class of farmers who are appealed to. While a few are very desirous of carrying on the work in this district, the majority are rather indifferent, and the work has again ceased for a second time. Intermittent testing in this way gives some information, but it is small compared with what it would be were the work carried on steadily and continuously. Instead of one testing-station serving the two valleys, each valley should have several for itself; and I hope the day is not far distant when this will be the case.

The Secretary of the Association is Mr John Henderson, Lockerbie, and the expert in charge was R. Richardson. Several of the herds in the Association this year were tested in 1903,—the first year in which this work was undertaken by the Highland and Agricultural Society. In that year the work was only carried on during 26 weeks, beginning early in May; this year it was carried on for 32 weeks, beginning in April. In 1903 there were only 3 cows, all in different herds, which had a yield of over 900 gallons of milk of 3 per cent of fat; whereas on this occasion, with the slightly longer period, there are 22; while 1 cow yielded over 1200 gallons of milk of 3 per cent of fat, another over 1100, 3 over 1000, and 17 between 900 and 1000. This is a very material improvement on the returns of 1903, which were then thought very good, but I have no doubt that the information gained last summer will permit of still greater increases. Owing to the period over which the testing extended being longer last year than in 1903, no reliable comparison can be made, but it seems as if the general average was better last year.

2 PER CENT (15) OF THE BEST COWS IN THE DUMFRIESSHIRE
ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
L	31	931	41.6	3.90	1203	25 1 3	7		April 10	..
O	20	792	35.4	4.4	1127	23 9 7	7	L	March 4	..
S	19	862	38.5	3.7	1055	21 19 7	7	M	April 3	..
O	2	848	37.8	3.8	1054	21 19 2	9	M	March 20	...
L	33	792	35.3	4.0	1037	21 2 1	5	...	"	...
N	17	808	36.0	3.7	992	20 13 4	Aged	.	" 1	.
J	17	750	38.2	4.0	934	20 10 0	8		May 1	
O	27	774	34.6	3.9	962	20 0 10	5	s	April 12	
N	15	708	31.6	4.1	957	19 18 9	6	..	" 4	
O	15	667	29.8	4.3	955	19 17 11	11	M	Feb. 14	
N	19	742	33.1	3.9	939	19 11 3	8	..	March 26	
N	32	648	28.9	4.4	936	19 10 0	Aged	...	" 6	
J	11	701	31.3	4.0	933	19 8 9	14	...	April 9	..
O	30	627	28.0	4.6	926	19 5 10	5	M	" 1	...
J	10	759	34.0	3.7	924	19 5 0	12	...	" 15	..

While a large number of excellent cows have been tested this year, the work has also brought to light a still larger number of quite unprofitable animals. These, like the poor, seem to be always with us, and it is only by systematic work of this kind that they can be effectively eliminated. What is, however, very noteworthy is that, with one exception, none of the least profitable animals are on those farms which were tested in 1903. This seems to indicate that the owners of the herds which were tested on the previous occasion have realised the use of the records, and have got rid of their worst animals. This is as it should be, and it is to be hoped that it will continue.

SOME OF THE LEAST PROFITABLE COWS IN THE DUMFRIESSHIRE
ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
P	10	207	12.3	3.8	257	5 7 1	4	L	Feb. 4	..
P	31	223	11.4	3.6	267	5 11 3	6	L	May 5	...
K	33	216	19.2	3.6	258	5 7 6	8	..	March 6	...
A	20	267	19.1	3.2	237	5 19 7	11	M	" 14	Dry, Sep. 1
M	26	360	21.4	2.3	292	6 1 8	4	...	April 12	...
V	7	247	12.6	3.7	294	6 2 6	4	...	March 9	Dry, Oc. 15
F	20	276	16.5	3.6	321	6 13 9	5	..	" 3	...
F	21	312	16.0	3.4	349	7 5 5	5	..	April 1	(Dry, end of Sep.
F	26	281	16.7	3.9	363	7 11 3	5	..	" 12	...
B	22	322	14.4	3.6	382	7 19 2	9	..	Feb. 19	...
B	21	364	16.2	3.3	393	8 3 9	9	...	March 15	...

The heifers tested in 1906 compare very favourably with those tested for a similar number of weeks in other districts, and a large proportion of them should ultimately grow into very profitable cows.

SOME OF THE HEAVIEST MILKING HEIFERS IN THE DUMFRIESSHIRE ASSOCIATION.

Farm	No. of cow.	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 3% of fat in galls	Value of the produce at 5d per gall for milk of 3% of fat	Size of cow	Date of calving	REMARKS
N	29	589	26.3	4.3	823	£ s. d. 17 2 11		March 6	{ Best cow in herd
R	52	543	24.2	4.4	783	16 6 3		" 3	
L	21	564	25.2	4.2	762	15 17 6		" 8	
L	29	604	27.0	3.9	751	15 12 11		Feb. 25	
O	32	626	28.0	3.6	740	15 8 4	M	April 15	
O	24	583	26.0	3.9	735	15 6 3	M	March 31	
F	5	572	25.5	3.9	731	15 4 7		April 2	
L	10	551	24.7	4.0	730	15 4 2		March	
N	4	527	26.9	4.1	721	15 10 5		April 18	

Several of the farms had a very small proportion of heifers, and as showing the value of pedigree in this work, it is worthy of notice that the very best of these are, comparatively speaking, on a small number of farms. It is, however, gratifying to find that many good animals are fairly uniformly spread over the most of these farms.

SOME OF THE LEAST PROFITABLE HEIFERS IN THE DUMFRIESSHIRE ASSOCIATION

Farm	No of cow	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 3% of fat in galls	Value of the produce at 5d per gall for milk of 3% of fat	Size of cow	Date of calving	REMARKS
A	17	206	14.7	3.8	262	£ s. d. 5 9 2	S	March 17	Dry, Sep. 1
N	24	234	13.9	3.9	296	6 3 4		April 21	
H	5	342	17.4	3.3	373	7 15 5	S	May 5	
H	21	283	13.4	4.2	385	8 0 5	M	March 29	

As is seen from the foregoing table, the number of poor milking heifers is very small. As showing how necessary it is to look after the poor ones, it will be noticed that one of the worst is in the same herd as that to which the best one belongs.

FENWICK FARMERS' SOCIETY.

This is the only society which up to the present has carried on milk records throughout the whole year. As far as one can judge, the value of this work has been more firmly grasped by the farmers of this parish than by those of any other. In nearly all the other districts some of the farmers invariably drop off every year, but here they stick well together, and this year have even set records agoing in a second group of 18 herds without any money grant from the Highland and Agricultural Society for this group. The great enthusiasm here is all the more creditable in view of the fact that the herds are smaller than in any other district where the milk records have hitherto been carried on. The interest shown in this work is well indicated by the following incident. A cottar was so anxious to have his only cow submitted to the test that, in order to get this done, his wife carried the milk of the cow over half a mile to meet the expert at each of his visits to a neighbouring farm. This cow turned out a particularly good one, and yielded during the season something like 1000 gallons of milk. It is not, however, recorded here, but a note was made each day of the result of the test.

The secretary of the Fenwick Society is Mr James Dunlop, Midland, Fenwick. The expert in charge at the beginning of the year was William M'Cleary, who had charge of the work in 1905. Early in autumn he was appointed manager of the Rowallan Creamery, when Hugh Stirling, who had received his training at the Dairy School, succeeded him.

The Fenwick Society is principally composed of farmers in the parish of Fenwick, between Kilmarnock and the borders of Lanarkshire. The district lies at a rather high altitude, much of it being from 400 to 600 feet above sea-level. Cheese-making used to be the principal industry of the district, but, with few exceptions, all the farms now send their milk direct to Glasgow or to the two collecting milk-depots in the district. Breeding is largely followed on every farm, and in a very few years the milk records should exercise a material influence on the herds in this district. The farmers here have entered into the movement not simply because they were asked to do so, or because one or more were wanted to complete the number sufficient to make a good group of herds, but because they think it will pay them to do so. The work has now been carried on without any break for over two years, and the more experience the people have of it the more highly they appreciate it.

The test in Fenwick in 1906 embraced 18 herds, the number of cows tested being 455. The test here is a 21-day one, which gives fair results, but they would be materially improved if the interval could be made 14 days instead of 21 days.

The following is a list of the owners of the herds tested :—

D. & J. Bickett, Raithmuir, Fenwick.
 Andrew Clement of Netherton, Busby.
 John Douglas of Langdyke, Fenwick.
 James Dunlop of Gree, Fenwick.
 James Dunlop, Midland, Fenwick.
 James Garven, Dalmusternock, Fenwick.
 John Gemmill, Aitkenhead, Fenwick.
 James Howie, Hillhouse, Kilmarnock.
 William Howie, Burnhouses, Kilmarnock.
 James Lindsay, Blackbyre, Fenwick.
 John Lindsay, Moss-side, Fenwick.
 Robert Loudon, Harelaw, Fenwick.
 Mrs Mather, Thorn, Fenwick.
 David Murchland, Broadmoss, Fenwick.
 A. B. Paton of Collarie, Fenwick.
 George Retson, Gardrum, Fenwick.
 William Wilson, High Todhill, Fenwick.
 James Young of Hareshaw, Fenwick.

In order to complete the round in 1905, two weeks more than the year were entered in the books. As the totals were made up and checked before this was discovered, it was considered desirable to allow these to remain rather than make any alteration on the figures, although it undoubtedly had the effect of increasing the yearly yield beyond what it would normally have been.

For 1906 the period only extended over 51 weeks, so that the maximum results of individual cows are not so high as in 1905. When, however, the three weeks extra allowed last season has been deducted, the difference is very trifling.

12 OF THE BEST COWS IN THE FENWICK SOCIETY.

Fam.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Dates of calving.	Weeks in milk	REMARKS.
P	26	1135	36.0	3.8	1445	£ 30 2 1	...	L	May 23, 1905	3	Aborted
						s. 2			April 5, 1906	42	
H	30	1186	40.3	3.5	1404	29 5 0	7	L	Nov. 14, 1905	36	
C	7	1160	50.2	3.6	1397	29 2 1	11	L	" 19, 1906	6	
H	10	1120	38.1	3.6	1324	27 11 8	7	M	Feb. 12, 1906	33	
									Mar. 12, 1906	42	
B	15	1001	31.8	3.9	1314	27 7 6	8	M	Dec. 10, 1905	39	
									Nov. 23, 1906	6	
H	19	1260	37.5	3.0	1263	26 6 3	7	S	Jan. 27, 1906	48	
I	19	963	28.6	3.9	1253	26 2 1	8	M	Dec. 6, 1905	48	
K	10	911	27.1	4.0	1233	25 13 9	6	M	Jan. 2, 1906	48	
K	3	907	30.9	4.1	1232	25 13 4	6	M	Feb. 1, 1906	42	
G	16	1027	28.8	3.6	1223	25 9 7	9	M	Jan. 20, 1906	51	
B	19	1037	38.0	3.5	1219	25 7 11	11	L	May 17, 1905	3	
									" 1, 1906	36	
B	17	939	31.9	3.8	1202	25 0 10	4	L	Oct. 1, 1905	24	
									Sept. 12, 1906	13	

As will be seen from the foregoing table, the manner in which it has been made up slightly differs from those of previous years. In the column for "Weeks in milk" the number of weeks is entered for each calving, during which the cow gave milk during the year. For example, take the first cow on the list, P 26. This cow has given milk for 3 weeks in 1906 after calving on 23rd May 1905. She then calved again on 5th April 1906, and yielded milk for 42 weeks of that year, or a total period of 45 weeks.

In the sheets for each herd, where the period of lactation extends over two years, the amount of milk yielded, and the number of weeks during which it was produced, are given on the first line, the total production for the year on the second line, and the amount and weeks in milk from the second calving are given on the third line. By another year it is hoped to make a further improvement in stating the results, as instructions have been sent to the expert to bring forward from last year any milk which a cow has yielded during its present lactation. In this way it will be possible to give in future not only the total milk yielded within the year, but also the quantity for each calving. The two methods of tabulating the results should not differ materially if the cow calves at intervals of about a year. While the lactation period is probably the more correct method of stating the results when the cow calves at intervals of about a year, it becomes very misleading whenever the period extends beyond the year.

The following is a list of those cows which have yielded under 600 gallons of milk of 3 per cent of fat during the year:—

SOME OF THE LEAST PROFITABLE COWS IN THE FENWICK SOCIETY.

Farm.	No of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat	Total milk of 3% of fat in galls.	Value of the produce at 5d per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Dates of calving.	Weeks in milk.	REMARKS.
M	31	460	18.2	3.1	481	£ s. d. 10 0 5	12	M	Mar. 10, 1906	36	...
O	9	463	20.0	3.1	487	10 2 11	10	s	" 11, 1906	33	{ Dry, end of Oct.
P	5	517	17.6	2.9	499	10 7 11	4	L	June 10, 1905	6	...
K	28	460	20.0	3.4	527	10 19 7	4	M	May 20, 1906	36	...
O	17	518	19.0	3.1	535	11 2 11	5	s	Oct. 8, 1905	27	...
A	14	409	22.9	4.0	555	11 11 3	4	.	Nov. 28, 1906	6	...
K	30	414	21.9	4.0	555	11 11 3	4	M	Jan. 15, 1906	39	...
H	25	498	16.9	3.5	574	11 19 2	7	s	Nov. 1, 1905	12	...
R	31	572	20.9	3.0	580	12 1 8	7	M	Oct. 1, 1906	15	...
P	16	459	14.6	3.9	595	12 7 11	4	M	April 15, 1906	27	Sold
									Aug. 9, 1905	21	...
									" 14, 1906	21	Almost dry
									Mar. 3, 1906	39	...
									May 20, 1905	6	...
									April 28, 1906	39	...

The number of really poor cows is, comparatively speaking, small, but no cow should be kept which only gives 600 gallons when other ones are available giving 700 or 800 gallons. The number of the less profitable cows which have been sold during the year is considerable, for each farmer was able to find out unsatisfactory cows by referring to the sheet giving the particulars for each herd. The average yield of the herds seems this year better than last, but there is no time at present to methodically work that out. It is, however, being kept in view, and at some later date it may be possible to give a reliable comparison of one year with another. The elimination of the poorer milkers is undoubtedly raising the general average, and in this the first and main object of the milk records is being accomplished.

The heifers are all through a very good lot, and several among them should turn out valuable animals. Had it been practicable, I would have liked to have followed the heifers of each year through following years, but I have not a full list of the letters applicable to each farm for the year 1905. This should, however, form an interesting study later on. The following is a list of the more profitable heifers tested during the year:—

HEIFERS IN THE FENWICK SOCIETY YIELDING 900 GALLONS OR OVER
OF MILK OF 3 PER CENT OF FAT.

Farm.	No. of cow	Total milk in galls	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Dates of calving.	Weeks in milk.	REMARKS
						£ s. d.					
C	2	845	28.7	4.0	1132	23 11 8	3	L	Oct. 26, 1905	27	
									" 1, 1906	15	
D	2	727	21.6	4.6	1112	23 3 4	3	L	Aug. 13, 1905	33	
O	12	763	21.4	4.3	1104	23 0 0	3	S	Sept. 1, 1906	15	
G	18	711	26.0	4.2	997	20 15 5	3	M	Jan. 25, 1906	51	
									April 17, 1906	39	
L	5	674	21.4	4.4	978	20 7 6	3	M	Oct. 20, 1905	30	
									" 1, 1906	15	
P	31	799	27.2	3.6	972	20 5 0	3	M	" 1, 1905	18	
									Aug. 14, 1906	24	
H	21	705	20.9	4.1	967	20 2 11	3	M	Nov. 14, 1905	36	
									Oct. 20, 1906	12	
B	29	770	24.5	3.7	963	20 1 3	3	S	Aug. 25, 1905	21	
									" 5, 1906	24	
K	2	744	23.6	3.9	962	20 0 10	3	M	Sept. 1, 1905	45	
D	1	725	20.3	3.9	946	19 14 2	3	L	Oct. 13, 1905	51	
C	19	723	24.6	3.8	930	19 7 6	3	M	Nov. 27, 1905	30	
									" 1, 1906	12	
H	20	633	20.1	4.3	925	19 5 5	3	S	" 17, 1905	24	
									Aug. 16, 1906	21	...
K	18	676	23.0	4.0	906	18 17 6	3	M	Sept. 25, 1905	27	
									" 25, 1906	15	

With three exceptions, all the heifers in the above list have given 700 gallons of natural milk or more during the past year. Many persons would consider this a good return from an average cow, as in reality it is. But the average cow is not nearly so valuable as she might be, and as it is to be hoped she will become in the not very distant future. The totals are not so high as those of last year, but when the length of the milking period is considered, they are really better. The average period allowed for 18 of the best in 1905 was 49 weeks, while this year the average for 13 is 45 weeks, so that before the two lots are comparable a month's milk has to be added to those of 1906.

HEIFERS IN THE FENWICK SOCIETY YIELDING UNDER 600 GALLONS
OF MILK OF 3 PER CENT OF FAT.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 8 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 8 % of fat.	Age of cow.	Size of cow.	Dates of calving.	Weeks in milk.	REMARKS.
						£ s. d.					
O	16	307	16.2	4.0	406	8 9 2	3	s	April 22, 1906	27	Dry, end of Oct.
N	24	379	16.4	3.3	421	8 15 5	3	M	Sept. 1905	18	
P	2	448	16.4	3.3	503	10 9 7	3	L	" 27, 1906	15	
Q	23	377	19.9	4.1	519	10 16 3	3	L	April 9 "	39	...
P	17	496	18.1	3.3	549	11 8 9	3	L	" 20 "	27	Sold
P	14	495	19.7	3.4	571	11 17 11	3	s	" 30 "	39	...
									" 20 "	36	...
O	25	525	25.0	3.2	573	11 13 9	3	s	" 15 "	30	Dry, middle of Nov.
O	8	454	21.6	4.0	594	12 7 6	3	s	" 15 "	30	

Among the foregoing heifers there are very few which would generally be classed as unprofitable. In 1905 there were 6 heifers with an annual milk yield of under 500 gallons of milk of 3 per cent of fat, while in 1906 there were only 2. That is a gain, but it is one which cannot be put to the credit of the milk records. The poorest heifers in 1905 had only a lactation period of 31 weeks, while in 1906 the average milking period was 32½ weeks, which in great part accounts for the increased yield.

A good many of the heifers calve in autumn at from 2½ to 2¾ years old. For the time they have been under the test several of these have given very good yields, but the period over which it has extended has been too short to be of any material value in estimating their milking capabilities.

RHINS OF GALLOWAY DAIRY ASSOCIATION.

Under this association twelve herds were tested, all on farms in the Stranraer district. The work here was in charge of James Woodburn, who was the expert in charge of the Cumnock district in 1905. Mr Lamb, Gallowhill, acted as secretary. The most of the herds tested were large; and as arrangements had been made for visiting each herd once every fourteen days, the number of cows tested in each herd was limited to 46. There were tested for this association 537 cows. Testing began on 1st March and continued to the end of August. The time during which the work was carried on was much too short to give very reliable results, particularly as in this district a large proportion of the cows calved in January and February. For the size of the herds the number of animals that are reared is, comparatively speaking, small—the most of the farmers preferring to keep a full herd of cows only, 20 to 25 per cent of which they sell annually, which they replace from the rearing districts of Ayrshire or Argyleshire.

A milk record station was formed in this district in 1903, but the work was only carried on for one year, and only two of the herds tested in that year were embraced in those tested in 1906. The cows in this district are used almost entirely for the production of milk for cheese, or for milk for the supply of one or other of several creameries in the district.

The following is a list of the owners of the herds tested in 1906:—

John M'Caig, Boreland, Stranraer.
W. H. Ralston, Dunragit, Stranraer.
W. H. Ralston, Boreland, Dunragit.
Miss M'Caig, Drumdock, Dunragit.
Mrs M'Caig, Barnultoch, Lochans.
Messrs M'Caig, Barnchalloch, Lochans.
Andrew Murray, Port of Spittal, Lochans.
Miss Wither, Lagganmore, Portpatrick.
Robert Purdie, Craichmore, Stranraer.
Andrew Cochrane, Ardwell, Kirkcolm.
George Cochrane, North Cairn, Kirkcolm.
John Agnew, Balwherrie, Leswalt.

The best cows in this association have not given the same total yield as in any of the others; but this is explained by the short time over which the test extended.

It will be noticed that none of the cows have given 900 gallons of milk of 3 per cent of fat, but several of them have yielded 40 lb. of milk daily during the whole period over which the test lasted. In addition to that, the most of these

2 PER CENT (11) OF THE BEST OF THE COWS IN THE RHINS
OF GALLOWAY ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
A	29	653	35.8	4.1	895	18 12 11	9	M	Jan. 1	...
A	37	691	38.0	3.8	883	18 7 11	8	L	Feb. 27	...
I	23	727	40.0	3.5	856	17 16 8	5	M	Jan. 28	...
E	30	720	42.8	3.5	839	17 9 7	5	L	March 12	{ One visit missed
B	14	754	41.4	3.3	825	17 3 9	9	L	Feb. 2	
K	10	598	32.9	4.0	798	16 12 6	9	L	Feb. 24	...
L	20	681	41.0	3.7	786	16 7 6	6	M	April 3	{ Two visits missed
B	2	625	34.3	3.7	776	16 3 4	8	M	Feb. 25	
A	17	619	34.0	3.7	768	16 0 0	9	S	Feb. 20	...
K	10	598	32.9	4.0	765	15 18 9	9	L	Feb. 24	...
I	46	629	34.5	3.6	757	15 15 5	6	M	Feb. 13	...
Average		659	37.0	3.7	813	16 18 9	7.5	...	...	...

were cows which had calved in January or February, so that had their total milk yield been recorded it would have been very good.

2 PER CENT (11) OF THE LEAST PROFITABLE COWS IN THE RHINS OF
GALLOWAY ASSOCIATION, WHICH HAVE BEEN IN MILK ALL OR MOST
OF THE TIME DURING WHICH THE TESTING LASTED.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
C	44	114	13.7	3.3	123	2 11 3	5	L	Feb. 22	Dry, June 5
F	40	152	13.6	3.9	190	3 19 2	4	L	"	
C	21	172	15.3	4.0	231	4 16 3	5	M	Jan. 1	Dry, June 11
F	14	221	19.7	3.4	249	5 3 9	5	L	"	
G	42	272	24.2	3.5	319	6 12 11	8	L	" 10	Dry, July 3
F	24	315	17.3	3.1	320	6 13 4	8	M	Feb. "	
F	39	348	19.1	2.8	335	6 19 7	10	L	"	...
F	12	265	14.5	4.0	345	7 3 9	7	M	Jan. "	...
L	4	345	19.0	3.1	352	7 6 8	11	M	" 12	...
E	17	330	19.6	3.3	364	7 11 8	8	M	March 12	...
H	26	302	17.9	3.8	367	7 12 11	6	M	" 10	...
Average		258	16.7	3.35	290	6 0 10	7	...	...	...

Several of the above animals have been very unprofitable, but little can be said about them except to point out that some of them went dry before the end of the period of testing.

Where cows are purchased in the open market, no person is able to steer clear of unprofitable cows. I have thought for many years that this district might profitably do more breeding for their own supply than they have hitherto done.

AVERAGE YIELD OF 4 OF THE HEAVIEST MILKING COWS IN EACH HERD
 IN RHINS OF GALLOWAY ASSOCIATION, COMPARED WITH AN EQUAL
 NUMBER OF THE LIGHTEST MILKING ONES, HEIFERS AND ALL NOT
 TESTED FOR THE FULL PERIOD BEING EXCLUDED.

		No. of cows in the herd.	Total milk in galls.		Average per cent of fat in the milk.	Total milk of 8% of fat in galls.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for ilk of 3% of fat.		
			Heaviest	Lightest				Heaviest milkers.	Lightest milkers	
								£	s.	d.
Heaviest milker,	A	41	643		3.8	822		17	2	6
Lightest	"	"		408	3.7		512		10	13 4
Heaviest	"	I	651		3.6	776		16	3	4
Lightest	"	"		385	3.6		467		9	14 7
Heaviest	"	L	46	576	3.8	769		16	0	5
Lightest	"	"		380	3.7		472		9	16 8
Heaviest	"	B	46	657	3.5	768		15	17	11
Lightest	"	"		358	3.5		417		8	13 9
Heaviest	"	K	46	589		760		15	16	8
Lightest	"	"		440	3.4		507		10	11 3
Heaviest	"	E	45	609	3.6	737		15	7	1
Lightest	"	"		414	3.1		432		9	0 0
Heaviest	"	M	46	567	3.5	671		13	19	7
Lightest	"	"		479	3.3		431		8	19 7
Heaviest	"	G	44	566	3.5	669		13	18	9
Lightest	"	"		383	3.6		461		9	12 1
Heaviest	"	D	46	512	3.9	663		13	16	3
Lightest	"	"		424	3.3		465		9	13 9
Heaviest	"	H	45	516	3.7	641		13	7	1
Lightest	"	"		376	3.2		409		8	10 5
Heaviest	"	C	44	516	3.5	607		12	12	11
Lightest	"	"		253	3.3		281		5	17 1
Heaviest	"	F	43	513	3.7	629		13	2	1
Lightest	"	"		259	3.1		274		5	14 2
Total . . .		537	...	...	...	..
Average of the heaviest milkers }		48	576		3.7	709		14	15	5
Average of the lightest milkers }		48		380	3.4		427		8	17 11

STEWARTRY DAIRY FARMERS' ASSOCIATION.

This association was represented by twelve herds, principally round Castle-Douglas, and between that town and Dumfries. The Secretary of the Association is Mr P. Gifford, 70 King Street, Castle-Douglas, and the expert in charge was W. D. Vallance. In this district the herds are generally large, the smallest one

consisting of 32 cows, and the largest 69, the total number of cows being 601.

The milk is principally made into cheese or sent to the local creamery. This district is well organised in dairy matters, and considerable progress is expected to be made in it with this work.

The intention here, as in the other districts, was to test a herd each day, but as half of the herds had 50 cows or over, it was found that the expert could not comfortably overtake the larger herds in a single day. Instead of the expert visiting each farm every 14 days, it was decided to do so every 21 days, and to take two days at six of the larger farms.

After work began it was found desirable to make alterations in the order in which the farms were visited. These alterations made a difference in the interval elapsing between the visits, the periods ranging from 22 days to 26 days. In order to get a close estimate of the total produce of each cow, the yield must be multiplied by the number of days between the visits. This irregularity in visiting the herds caused a great amount of extra work in making up and in checking the books. In future, therefore, irregular intervals should be avoided. The rotation in which the herds should be visited should be maturely considered before the work begins, and when once entered on should be continued to the end. The following is a list of the owners of the herds tested:—

David McGill, Hillowton, Castle-Douglas.

H. W. B. Crawford, Chapmanton, Castle-Douglas.

John Hastings, Wheatcroft, Castle-Douglas.

H. Parker, Boreland, Balmaghie, Castle-Douglas.

Edward Gordon, Dunjop, Castle-Douglas.

Thomas Douglas, Lochdougan, Castle-Douglas.

James M'Adam, Craigley, Castle-Douglas.

W. P. Gilmour, Balmangan, Borgue.

Sir Mark Stewart, Bart., Southwick Home Farm, Dumfries.

Captain Cochrane, Torrorie, Kirkbean, Dumfries.

Thomas Sloan, Newmains, Kirkbean, Dumfries.

Weir Bros., Brickhouse, New Abbey Road, Dumfries.

Work began on 26th March, and continued till the end of October. It extended over a period of 34 weeks, but in that interval each farm was visited only nine times. The actual period on which each herd is calculated is 214 days, where a cow was in milk all the time, and it is very gratifying to find, as shown by the following table, that almost a dozen of cows yielded milk equal to 1000 gallons or over of milk of 3 per cent of fat in that time.

2 PER CENT (12) OF THE BEST OF THE COWS IN THE
STEWARTRY ASSOCIATION

Farm	No of cow	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 8 / of fat in galls	Value of the produce at 5d per gall for milk of 8 / of fat	Age of cow	Size of cow	Date of calving	REMARKS
						£ s d				
C	26	782	39 9	4 6	1152	24 0 0	7		April 22	
G	33	732	35 4	4 6	1145	23 17 1	11		March 15	
C	61	755	35 3	4 3	1079	22 9 7	8		Feb 3	
H	38	820	38 3	4 3	1073	22 7 1	7	M	March 20	
H	10	730	34 1	4 4	1071	22 6 3	8	M	Feb 12	
M	51	809	37 8	3 8	1017	21 3 9	8		March 20	
D	4	634	33 0	4 8	1011	21 1 3	7		April 14	
I	6	837	39 1	3 9	1011	21 1 3	7		March 15	
C	24	845	39 5	3 6	1000	20 16 8	8		Feb 25	
M	2	710	33 2	4 2	999	20 16 8	5		" 26	
A	50	674	31 5	4 3	983	20 9 7	10		" 10	
C	31	717	33 5	4 0	978	20 7 6	7		March 23	
Average		752	36 9	4 16	1043	21 14 7	7 7			

The above figures show the capabilities of the breed. Owing to the better knowledge of the milking capabilities of each cow in the herd, the small farmer generally has the means of making a better selection of his calves, for milking purposes, than the owner of a large herd, who in many cases is not so conversant with the qualities of each animal. It is worthy of notice that the twelve most profitable animals, out of 601, are spread over eight farms out of a total of twelve. One herd has, however, four of these animals, and other two herds two each, the remainder having one each. Most of these herds would be classed as large.

Comparatively speaking, the number of really poor cows is small, as will be seen by the following table —

2 PER CENT (12) OF THE LEAST PROFITABLE OF THE COWS IN THE
STEWARTRY ASSOCIATION

Farm	No of cow	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 8 / of fat in galls	Value of the produce at 5d per gall for milk of 8 / of fat	Age of cow	Size of cow	Date of calving	REMARKS
						£ s d				
D	34	176	15 3	4 2	246	5 2 6	4		Feb 18	Dry, Aug 1
B	36	257	15 4	4 0	338	7 0 10	4		March 26	Dry, Sep 15
E	59	339	20 2	3 3	363	7 11 3	7		Feb 10	
E	8	310	14 5	4 0	394	8 4 2	4		Jan 5	
D	7	321	19 2	3 9	396	8 5 0	5		April 14	Dry, Oc 1
F	12	360	18 9	3 5	408	8 10 0	4		March 18	Dry, Oc 15
A	16	387	18 1	3 3	423	8 16 3	6		Jan 13	
D	17	344	18 2	4 0	436	9 1 8	6		Feb 14	
E	53	392	27 2	3 3	437	9 2 1	5		June 3	
D	50	310	14 5	4 0	439	9 2 11	4		Jan 11	
D	2	378	17 6	4 0	445	9 5 5	7		" 20	
G	43	430	20 1	3 1	446	9 5 10	4		Feb 13	
Average		334	18 3	3 57	397	8 5 5	5			

Cows which have calved in January and February, and from April to October yield milk, valued at from £8 to £9, can scarcely be called unprofitable. Two-thirds of those in the above list belong to this class, so that the remainder may alone be considered the poor ones of this association.

In this district the heifers compare very favourably with the cows, as is shown by the following table:—

6 OF THE BEST HEIFERS IN THE STEWARTRY ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
C	48	565	26.4	4.9	914	24 5 0	3	...	Jan. 17	..
H	36	680	36.0	3.8	866	18 0 10	3	M	April 15	...
C	4	586	27.4	4.2	812	16 18 4	3	...	Jan. 14	...
E	21	563	26.3	4.3	811	16 17 11	3	...	March 19	..
A	52	608	28.4	4.0	804	16 15 0	3	..	" 18	..
K	30	614	28.7	4.0	797	16 12 1	3	...	" 17	..
Average		608	28.9	4.15	834	17 7 6	...	...	..	...

The number of heifers in any of the herds is not very large, yet out of the lot there are six which gave an average of say 603 gallons during the testing period of 30½ weeks. That is as good as can be expected, more especially as two of these animals had calved two and a half months before testing began. If a full record had been kept of these animals they would have given a very good account of themselves. These two heifers are in herd C, which had the largest number among the best twelve.

Little criticism need be passed on the least profitable heifers; none of them require any special mention.

6 OF THE LEAST PROFITABLE HEIFERS IN THE STEWARTRY ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3% of fat in galls.	Value of the produce at 5d. per gall. for milk of 3% of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
D	25	257	13.6	4.1	332	6 18 4	3	...	Feb. 22	Dry, Oc. 1
B	58	265	12.4	4.0	345	7 3 9	3	...	March 5	
L	42	281	24.0	4.0	381	7 18 9	3	...	" 20	{ Unwell from Aug. 1 Approximate date Approximate date
L	18	296	15.6	3.6	348	7 5 0	3	...	April 15	
B	1	291	13.6	4.3	402	8 7 6	3	...	" 1	
D	38	347	16.2	3.7	407	8 9 7	3	...	March 1	...
Average		289	15.9	3.8	369	7 13 9	...	...	...	...

About the most that can be said regarding the above table is that, if a heifer is to grow into a useful and profitable cow, she should milk longer than has been done by No. 25 D, unless there is some special reason for the period being so short. Those who have paid closest attention to the lactation period of cows are strongly of opinion that the more a heifer yields during her first period of lactation, the better she is likely to milk during her second period. This opinion is very strongly held in Canada and the States, but less weight is attached to it here.

AVERAGE YIELD OF 10 PER CENT OF THE HEAVIEST MILKING COWS IN EACH HERD IN THE STEWARTRY ASSOCIATION, COMPARED WITH AN EQUAL NUMBER OF THE POOREST ONES, HEIFERS AND ALL NOT TESTED FOR THE FULL PERIOD, OR THOSE WHICH HAD CALVED BEFORE THE 1ST JANUARY, BEING EXCLUDED.

	Fam.	No. of cows in the herd.	No. reported on.	Total milk in galls.	Total milk in galls.	Average per cent of fat in the milk.	Total milk of 3% of fat in galls.	Total milk of 3% of fat in galls.	Value of the produce for milk of 3% of fat at 5d. per gallon.	
				Heaviest	Lightest				Heaviest.	Lightest.
Heaviest milkers	A	59	6	709		3.86	914		£ s. d.	£ s. d.
Lightest "	"				398	3.67		437	19 0 10	10 2 11
Heaviest "	B	60	6	624		3.80	790		16 9 2	
Lightest "	"				353	3.58		421		8 15 5
Heaviest "	C	69	7	748		4.05	1011		21 1 3	
Lightest "	"				465	3.63		563		11 14 7
Heaviest "	D	59	6	649		4.09	885		18 8 9	
Lightest "	"				308	3.94		405		8 8 9
Heaviest "	E	52	5	650		3.94	855		17 16 3	
Lightest "	"				354	3.77		442		9 4 2
Heaviest "	F	32	3	675		3.96	891		18 11 3	
Lightest "	"				461	3.48		536		11 3 4
Heaviest "	G	51	5	696		3.96	922		19 4 2	
Lightest "	"				451	3.33		508		10 11 8
Heaviest "	H	34	3	748		4.10	1021		21 5 5	
Lightest "	"				549	3.61		661		13 15 5
Heaviest "	I	49	5	685		3.80	869		18 2 1	
Lightest "	"				472	3.40		536		11 3 4
Heaviest "	K	38	4	664		3.85	857		17 17 1	
Lightest "	"				427	3.63		517		10 15 5
Heaviest "	L	49	5	689		4.00	850		17 14 2	
Lightest "	"				397	4.00		530		11 0 10
Heaviest "	M	49	5	730		3.97	966		20 2 6	
Lightest "	"				446	3.71		553		11 10 5
Total		601	60	.	..	...	...	...	...	...
Average heaviest	.	.	.	685		3.95	902		18 15 10	
" lightest	.	.	.		423	3.63		513		10 13 9
" difference	.	.	.		262	.32		389		8 2 1

CLYDESDALE MEMORIES.

THE OLDER SCHOOL OF CLYDESDALE HORSE BREEDERS:
THEIR HORSES, IDEAS, AND METHODS.

By THOMAS DYKES, Edinburgh.

IN these days of modern scientific development, when the horse with its attendant cart and load has to halve the highway to every form of mechanical locomotion, it seems fit to notice the operations of the men who did work in the past, so far as ordinary agricultural haulage and city traction or general commercial conveyance were concerned. Ashore we have within the past few years broke to harness various forms of explosives, like petrol and other hitherto untractable substances; afloat the turbine is doing away with the old-fashioned marine engine and its cranks, cylinders, and piston-rods. We may have further changes, but it seems certain that we shall always have, altered in type gradually to meet each new state of things, the Clydesdale horse. It has had a long and instructive history, which is not likely to be discontinued, for though the motor may remove it from certain fields of equine labour, just as the steam locomotive did at one time, it will develop new work for it in other directions.

Had those who during the period of development of the railway system entertained pessimistic views, we would not have such grand lorry horses on our streets at the present day. What the steam horse brought in bulk, being confined to its track, it could not deliver, and so the work of minor distribution, as did previously the collection, fell to the stout, able work-horse. The contractors for the railways brought a large amount of money into our fairs, bargains were quickly made, and good prices were readily given. There is no better incentive to agriculture than steady and remunerative markets: these were forthcoming from the goods managers of the leading railway companies, and eventually from the large town owners, brewers, and millers, as well.

At the outset farmers did not, as a rule, aim at producing anything better than what suited their own requirements. Gradually, however, they found that the "big good uns sold better than the big little uns," and they tried to increase height, weight, and strength of bone,—this, however, without running the risk of impairing such marked qualities of the Clydesdale as flat bones, well-sloped pasterns, and sound durable hoofs. Good pulling action had also to be preserved, and certain char-

acteristic features—such as the broad forehead, the full vigorous eye, and the large ear. These features quickly marked them out as Scottish horses at the leading English fairs, where owing to their hardiness of constitution they were, outside of any other excellences, held largely in favour amongst the leading dealers.

So much historical matter about the early evolution of the Clydesdale has been presented in recent years, that in the present article, which deals almost entirely with the men of the century which has passed away, it may conveniently be left out. The horses of the Upper Clyde valley seem for a long time to have engaged the attention of Scottish courts and Scottish governments—cavalry being as essential for defence against invasion as the British fleet is to the British Isles at the present day. There is small reason to doubt, indeed, that the ancient Clydesdale had all the characteristic features and meritorious points alluded to developed in the tribal system, as was the case with the so-called ponies or small horses of the forests north and south of Tweed under various Acts of Parliament. Under-sized, unsound, and weedy-looking young colts were castrated, and the biggest and best-looking allowed to roam and serve at will. The Upper Ward of Lanarkshire, and indeed a large part of that country which has the ancient royal burgh of Lanark as a centre, was, so far as horse-breeding is concerned, no doubt managed by the Lanark burgesses (who were bound to keep horses under certain penalties) very much after the way the New Forest, Hampshire, is as a pony-breeding reserve conducted at the present day.

Black Horse Blood.

About the middle of the eighteenth century stallion-keeping became somewhat of a business, this largely through the introduction of Black Horses and the craze after size. The spirit of the new movement seems to have come largely out of the east country,—the rich Lothian farmers, who had been extensive purchasers of Clydesdales in Ayrshire and Renfrewshire after the latter had got through their oat and barley sowing, being anxious to get more power in the yoke. Besides a large area of cultivation of a heavy character which had to be got through, there was a considerable extent of cartage to be done over tracks which could scarcely be dignified by the name of roads. Though, of course, Black Horse blood had been introduced into Lanarkshire about the year 1733, as the Introduction to the Retrospective volume of the Clydesdale Stud Book explains, this was largely through the private enterprise of breeders themselves, like the Patersons of Lochlyoch. Whether or not a Duke of Hamilton imported twelve Black stallions from

Flanders and stationed them at Strathaven Castle during the sixteenth century matters little,—we had a more than plentiful supply of it from other sources, as the following advertisement in ‘The Caledonian Mercury’ of October 16, 1721, well proves :—

FOR SALE.

THERE are to be exposed for Sale by Public Roup upon Wednesday, 1st of November, at the Miln of Alva, in Stirlingshire,—four miles east from Stirling, three miles from Clackmannan, and two miles from Alva,—in the house of Robert Murray, inn-keeper, five fine bay-coloured stone Horses, young and well-marked, proper for coach or saddle; one fine large black Stallion, four well-sized black English Mares, all of them with Foals at their foot, with several other Colts and Fillies two and three years old, all of good kinds. As also several fine Saddle Horses—being the displenishing of a gentleman who was very curious in breeding. The Roup is to begin at ten o'clock and to continue till all is sold.

We have no mention of the gentleman who was very *curious* in horse-breeding, but the Johnstones, lairds of Alva, were exceedingly enterprising.

The Duke of Buccleuch seems to have been very anxious to encourage the free use of Black Horse blood. Hence the following in ‘The Edinburgh Courant’ of May 4, 1774 :—

To cover at Dalkeith, at One Guinea
a mare and a shilling to the groom,

A REMARKABLE STRONG BLACK HORSE,

proper for getting either draught or carriage horses. His sire covered three years in Leicestershire at Five Guineas. This horse was bred by Mr Bakewell, at Dishley, in Leicestershire, and is thought to be the best of his sort that ever was in this country.

N.B.—Mr JOHN DICKSON, Dalkeith House, will show the horse.

Good grass for mares.

Linlithgowshire with Stirlingshire took the lead in the building up of the Clydesdale into a bigger type of farm horse, and

it was from the latter that the "Black wave" passed over into Lanarkshire. Bakewell, not content with selling stallions into Scotland to the Duke of Buccleuch and others, sent north two Black Horses of his own breeding which were stationed alternately, three days a week, at the Crown Hotel, Linlithgow, and at quarters in the Edinburgh Grassmarket. These horses were made much use of, and Black Horse blood, as distinct from old type Clydesdale, came into general demand. We give the card as advertised in 'The Edinburgh Advertiser' of May 1774:—

To Cover this Season at 15s. a mare.

A BEAUTIFUL BLACK HORSE, known by the name of YOUNG SAMPSON. He is a 4-year-old, 16·1 inch high, the property of Mr ROBERT BAKEWELL, in Leicestershire, and is allowed to be the best black horse ever shown in Scotland. Also with him is the much noted Bay horse called SAMPSON, from Westmoreland, 15 hands and a-half high. They are both remarkably strong and handsome to their size, free of all blemishes, and move as well as any horses in the Kingdom. They will be duly met with at Mr BAILLIE'S in the Grassmarket on Mondays, Tuesdays, and Wednesdays; at Linlithgow at THE CROWN on Thursdays, Fridays, and Saturdays.

The pure Clydesdale and the Clydesdale and Black Horse combination were recognised as separate divisions, much in the same way as in more recent times the Merryton half-Shire half-Clydesdale was recognised as different from the *improved*, or rather one might say enlarged, old Clydesdale breed. "Thompson's Black Horse"—the small handbill of which the writer had from a nephew of the owner, and which is reproduced in his introductory chapter to the second volume of the Clydesdale Stud Book—was only one of a very numerous family bred of Bakewell's Leicestershire combinations on other horses imported direct from Flanders. In many parts of the country, notably in the south-west of Scotland, these Black stallions were avoided. They were soft, and in the words of an old breeder who had discussed their merits and demerits on after-nights at Lanark Fair, "their work wasna equal to their keep." They were very sluggish, no doubt, like all horses bred on the Flamand sea-coast, and needed more oats than could be well spared when the latter formed the staple food of the peasantry.

That the Black Horse gave a certain thickness and strength of bone to the existing Clydesdale was very generally admitted

by breeders up till entering upon the last quarter of the eighteenth century, when a hark-back movement was made to the old Scottish type. Various influences were working away, *gradually* but *unseen*. Ploughs and all forms of agricultural implements were steadily being improved, the Turnpike Act had been passed, and Macadam had given us roadways which were impervious to rutting.

Whilst Ayrshire, the Galloways, and Dumfriesshire would not take the Black sorts, Aberdeenshire drew very heavily on the modern combination. Hence we have the following advertisement in 'The Edinburgh Courant' of 1804:—

ROUP OF MR JAMES INNES, DURRIS.

To be Sold on August 22, 1804, Twelve Work-Horses and Mares, all of them good sizes, peaceable, and in great order. They are chiefly bred from a valuable Lanarkshire Black Horse.

Early Shows.

As we have said, Bakewell had two Black Horses which stood at Linlithgow on easy terms, and which no doubt were well patronised. Hence we find in 'The Edinburgh Courant' of February 15, 1808, the following announcement:—

"The West Lothian Agricultural Society, at their last meeting, held at Linlithgow on the 5th inst., resolved that, in order to improve the Draught horses and the cattle of the county of West Lothian, Premiums amounting to the following sums shall be given: Fifteen Guineas to the person who shall produce the best cart stallion, and seven guineas for the next best" (here follows premiums for cows).

The Campsie (Stirlingshire) Improvers' Society held a very excellent show of horses about this time and for some years afterwards. Modern Clydesdale horse history, however, may be largely held to date from the Highland and Agricultural Society's first meeting in Glasgow in 1826. Glasgow being the centre of the Clydesdale horse breeding district, a very early spirit of improvement was manifested by the farmers of the adjacent counties, and the organisation of the Glasgow Annual Stallion Show in the 'Seventies had a great deal to do with the development of draught horse breeding, not only in Scotland but also in the north of England. It was not possible for many of the owners to send, unless at a cost which the income from service-fees did not warrant, to the various little exhibitions which were held throughout the country, at Gatehouse-on-Fleet in Wigtownshire, and other places. The hiring societies felt also that they were not getting much range of choice. Gradually the latter resolved to meet at Glasgow

and select horses after the Glasgow Agricultural Society had claimed, according to conditions, what its judges considered the most superior stallion for the district. Somehow Renfrewshire held out against Glasgow's attempt to establish a monopoly, and regularly, after the date of the Glasgow exhibition had been announced, fixed its show to be held at Paisley for the day previous.

With their show gradually extending into national importance, and finding that they had to make special application for space in the Cattle Market, also to expend money in stall fittings and barricades, the Glasgow directors insisted upon an earlier period of entry, horses having been for a long time simply brought forward without entry at all and inspected. In 1871 it was determined to have something in the form of a card of exhibits, no horses to be allowed into the enclosure unless names and names of owners were printed thereon. Small heed was given to this, though the entries did not close till ten o'clock on the night previous to the show—the writer, however, attending at Paisley and receiving a few. The cards having been got out overnight, the next day a large number of good horses, belonging many of them to leading owners, were refused entrance at the gate. The following year there was no difficulty over the matter, and Renfrewshire in the end giving way, the Stallion Show was fully consolidated, the full Cattle Market in the end being found too small for all the exhibits. Premiums and service-fees were alike raised, a foreign market was set up, and the exhibition came to be regarded as a great annual Fair or Exchange.

Clydesdale Horse Society.

The most important chapter in modern Clydesdale horse breeding history, however, is that which relates to the formation of the Clydesdale Horse Society and the completion of the pioneer volumes of the Clydesdale Stud Book. The first possibly to advocate pedigree registration in this direction was the late Mr Thomas D. Findlay of Easterhill, who was very fond of the old Scottish type of agricultural horse, as represented by Mr Peter Crawford's prize-winning Glasgow stallion Ivanhoe, and in later days Mr William Caldwell's (Boydston, Ardrossan, Ayrshire) Boydston Boy. When we consulted him about the matter in 1874, he said that the Scottish breed of draught horses, as represented by the Clydesdale, was losing many of its ancient characteristics, the dealer element in the north being anxious to supply the demand from the midland towns of England for dray horses, and not very particular as to the future, so long as they could furnish rough, heavy geldings. Except to say that such a register would be a great advantage to home breeders

themselves, as well as to those abroad, he could give little encouragement save recommending us to keep the idea in mind, and to call on Mr Cockburn, the well-known Glasgow veterinary surgeon, with whom he had several times talked the matter over.

Mr Cockburn, who had executed some Clydesdale commissions for foreigners, thought a stud book was absolutely essential from the point of view of doing business,—pedigrees, most of them of a hearsay character, having to be hunted out and mailed after shipment. So far as we can recollect, the English buyers of Clydesdale stallions were not much more satisfied, arriving home with a young horse or colt by Prince of Wales, to find out at the Royal Agricultural Show that the sire (or it might be the grand-sire) was not by the Merryton famous sire, but by some other of the same dynasty. Prize-winning names were quickly, and we might say most unscrupulously, seized upon, and that of Sir Walter Scott, the grandsire of the Merryton horse, was commonly made use of. The merits of the fathers, we are afraid, descended unto the children, and other equine children as well. So when making our interrogatories about a colt subsequently castrated, which was called young Sir Walter Scott, the following was in colloquial style the phraseology: "He is a son, is he not, of young Sir Walter Scott by old Sir Walter?" "*Na, na*, he is naething of the kind." "Then he was by the old horse himself?" "You're a' wrang again; in fact, he's nae relation to the auld Sir Wattie at a'; but, ye see, ye maun have a guid name if ye want to book mares nooadays."

Numerous cases of this kind came before the Editing Committee, together with others of a kindred character. A poacher has many *aliases*, but in no case more than had then the so-called poaching stallion, which, failing to get an engagement at the Glasgow Stallion Show, was, with some groom who knew the country, despatched into certain preserves, there to gather up as much as possible in nominal service-fees, and this without regard to foal-money contingencies.

Keeping this in view, it became evident to many of the most intelligent of our draught horse breeders, and more particularly those who studied Coates's Shorthorn Herd Book and the General Stud Book of Messrs Weatherby, that things could get no "forrarder" in the matter of improvement unless we had *system*, and with *system record*, so that false statements as to lineage might be challenged at the Council meetings of Agricultural Societies, in the case of prize-winning stock, or, if necessary, in the law courts. Of course horse-dealers did not care to be troubled with the responsibility of giving pedigrees, any more than they did warranties as to soundness; and any attempts at the establishment of registration were met by them with little sympathy. "A good mare, and the best the body

ever had about his place either for showing or breeding, and what more does he want," was the remark of the late Hugh Crawford, the eminent West-country horse-dealer, to the writer, who had promised to find the pedigree for an old breeder who was not so fit to get about. All the information I had to work upon was that she was bought from Hugh Crawford at either Rutherglen or Glasgow Fair on or about a certain date. Hugh, broad, burly, and powerful in mind as in body, was busy at the time drawing out a likely lot for Mr McCulloch, buyer and stud manager for Pickfords and the London and North-Western Railway, and naturally enough did not care to be disturbed. Later on, with a little leisure, he gave us the clue we wanted.

The writer merely mentions the incident to show that the dealers did not recognise anything in the line of family foundation. Modern breeders will readily discover the reason why we wanted the particulars of the antecedents of "a good mare, and the best the body ever had about his place either for breeding or winning prizes." Everybody, and more particularly strangers from abroad, wanted, as they do at present, to buy from her owner at weaning-time or a little later off a mare not only possessing merit in herself, but able to contribute her excellences to her stock. Such a good mare, they reasoned, must have been sired by a good horse, and had many relatives possibly of equal merit to herself if their whereabouts could have been indicated. Of course many would say, "The mare carries her pedigree in her looks"; but it is needless to add that all such arguments are fallacious, for there have been exceedingly good-looking mares at times got by indifferent sires, which, no matter how carefully mated, have turned out disappointing at stud, there never being any real certainty as to how one would breed either as regards form or colour.

It is but fair to the dealers to say that they could not, from the style in which their business was then, as now, carried on, give much assistance in hunting out pedigree history. If they condescended (we are writing from experience) to turn up an old sale pass-book and say, "I bought her, to the best of my recollection, from so-and-so, who bred her himself or bought her from her breeder," you had all the clue you might get. You then had to do your best, much after the manner of the professional hunters of next-to-kin holders of legacies who search amongst gravestone epitaphs and parish registers. The habit of changing a horse's name with the changing of ownership was a frequent cause of confusion, and altogether one had no reliance upon pedigrees as they were then supplied. In many cases they were, mayhap, right enough; but there was always some one—a defeated exhibitor in the majority of cases, if not a disappointed customer—ready to declare otherwise.

"Pedigree Unknown."

The Highland and Agricultural Society having insisted upon all young Clydesdale exhibits having their pedigrees stated in the entry-form where such pedigrees were known, a goodly number were sent in marked "Pedigree unknown." To honest breeders who complied with the conditions this was, on the face of it, manifestly unfair. Between the closing of the entries a promising yearling, fully entered with names of sire or dam, might go all wrong, and though you had another quite as good, you dare not honestly take it forward. The owner of the colt entered "Dark brown, pedigree unknown," could pick his best at the last moment, and in this way not only make success more certain, but save a good deal in entry money and railway carriage. A newspaper controversy having taken place over a pedigree-unknown two-year-old colt which was first in his class at Aberdeen, and an absolutely impossible pedigree having been supplied for this colt when later on he was engaged for service, a meeting, convened by Mr J. M. Martin, was held at Glasgow on the night before the Glasgow Stallion Show to consider the question of establishing a stud book. Lord Dunmore presided over a large and enthusiastic attendance of breeders, and, as everyone knows, the Clydesdale Horse Society was formed,—the first volume, which was retrospective, being issued in the latter end of 1878.

The Clydesdale Horse Society, which has been in every way most successful, has issued no fewer than twenty-seven volumes, the information contained in which is well authenticated, and has also granted official certificates of pedigrees for many hundreds of horses shipped to all parts of the world. Kindred societies, with stud books based on the home lines, have also been established in the United States and the Colonies.

The writer having, as Secretary, been much in touch with all the older breeders and owners, and heard them converse about horses with those who went before them, has in the following notes attempted as well as he could to produce some information of an anecdotal character gathered therefrom. In doing so he makes no attempt to range the matter in the order of importance in which it ought to occur, giving, one might think, Lanarkshire the preference. There is scarcely a county in the Lowlands that has not bred at one time or other a champion colt. The writer's first experiences of Clydesdale horses were gained in Ayrshire, his native county, and which shall always claim note as holding the birthplaces of the celebrated Merryton Prince of Wales and the two scarcely less noted horses, Macgregor and Flashwood.

Ayrshire Clydesdale Breeders.

The early Ayrshire Clydesdale breeders were represented in the Kyle district by a few stallion hirers and buyers of colts and fillies at Lanark Fair. Amongst the former were the Hutchisons of Craiksland in Dundonald parish. Previous to the year 1805, when Craiksland, with all the other properties on the Fullarton estate, was parted with to the fourth Duke of Portland, the family, according to tradition, had acquired some note in this branch of agricultural enterprise; and there is reason to believe that the Flanders stallion imported by Colonel Fullarton in 1793 occasionally stood at Craiksland farm, which is about a mile and a half distant from Fullarton House. This Colonel Fullarton, the last of the name associated with the lands, was the Brydon's brave ward of Burns's poem of "The Vision." He was twice member of Parliament for the county of Ayr, and supplied the Statistical Report of the county of Ayr in 1793. Succeeding to the estates when five years old, after being educated at Edinburgh he was sent under Patrick Brydon, an eminent Edinburgh scholar and gentleman, to travel on the Continent, visiting and being received at every European Court. He was an enthusiast in everything pertaining to the equine race, a careful observer, and an excellent judge, as is revealed by his remarks on the different bodies of Continental cavalry which came under his notice. In 1793, on the outbreak of the French War, he raised in the West country, with headquarters at Troon and latterly at Jock's Lodge, Edinburgh, the 25th Light Dragoons, or Fullarton's Light Horse. All the mounts were greys, and to distinguish them from Cathcart's Greys or Scots Greys, they were generally alluded to in the service as the Glasgow Greys, probably from the fact that they disembarked at Glasgow for duty on the south-west of Ireland, which it was expected would be invaded. Many of these mounts were mares, and their withdrawal greatly depleted the old stock of Ayrshire greys alluded to by Burns in all his poems, and which, according to the report of the Colonel himself, had been getting very thin.

In the year 1792 the Colonel married the Hon. Marianne Mackay, eldest daughter of the fifth Lord Reay, the head of the Clan Mackay, whose family, after parting with their extensive patrimonial acres to the Duke of Sutherland, had taken root on the Dutch coast, the present head of the family bearing the title of Baron von Oppenheim. It seems more than evident that the Colonel, through this early attachment, was well up in everything pertaining to the breeding of Flemish horses; for he, in a footnote to his report, says that he had tried, but in vain, to bring two Flanders mares to Fullarton, but that the

Dutch Government would not allow mares under any consideration to be exported. This was following on the Bakewell run and the somewhat sweeping advance of the Black Wave.

The Colonel, for the sake of improving the half-bred stock for remounts, brought to Fullarton a very famous thoroughbred horse, which served thoroughbred mares at five guineas, other mares two guineas. He was a bay, 15·2, a son of Eclipse, and declared to be the best bred, most powerful, and best shaped thoroughbred horse in Great Britain. He stood alternately at Restalrig, Edinburgh, and Fullarton; at the foot of his card there is the following:—

“Also to cover

At Fullarton, near Ayr, during the season, at One Guinea and half-a-crown for each mare, the powerful Flanders Stallion

VANDERNOOT,

A chestnut horse, six years old, 15·3 hands high, the best formed and strongest draught horse in this Kingdom, goes well upon his legs, and a good step, and can trot 13 miles an hour.”

This horse, the Colonel states, was 1200 lb. in weight, and could move two tons at a walk.

The character of the Ayrshire agricultural horses was no doubt considerably influenced for good by this red bay stallion, and a good many of the older Renfrewshire dealers used regularly to come down and have a look around, one of the last being Samuel Clark of Manswraes, elsewhere alluded to as one of the pioneers of modern stallioneering enterprise.

Mr Robert Hutchison.

Mr Robert Hutchison, grandson of Mr Andrew Hutchison, who was tenant of Craiksland in 1793, was well known in West of Scotland Clydesdale-breeding circles as an enthusiastic stallioneer, exhibiting at Gatehead, Wigtownshire, and other shows which used to be held before the Stallion Show was fully consolidated in the early 'Seventies. He bought colts timeously before the castration period at small prices, the service fees at that time not allowing of one's venturing too much capital at the initial stage. In the off season his horses had to do a little bit of farm work—if not in front of the plough, in turning the mill on threshing days. “They are all the better of it,” he used to say, “if you are good to them on the road afterwards.” Certainly, though his horses may not have been up to the highest prize-winning standard, they were wonderfully successful in producing foals. Besides holding stallions of his own, he occasionally indulged in several little poaching partnerships. One of these with which he was most

successful was that with Daniel Crawford of Barnbeth, Kilbarchan, and Loudon Tam.

The old Ayrshire and West-country pronunciation of the Lothians was the Lowdens, and this, coupled with the fact that Loudon Hill, in the centre of Loudon parish in Ayrshire, is a prominent landmark, caused considerable confusion in arranging pedigrees for the stud-book, it having been thought by some that Lothian Tam, the noted Highland prize horse belonging to Mr Arkley of Philipstoun, Linlithgow, was the same horse as Loudon Tam (509). The writer was largely indebted to Mr Hutchison and Mr Robert Guthrie of Crossburn for the clearing up of the difficulty. This particular Loudon Tam (509) was by Loudon Tam (508) by a "grass colt" selected from the drove at Lanark Fair by Matthew Young of Knockendale, who bought for such farmers in the Kyle district as wanted horses for lea ploughing. It seems more than likely that the latter was bred on the Loudon (Ayrshire) and Lanarkshire border. With Tom Carstairs (879) he (Mr Hutchison) did very well in the Ayrshire and Galloway country, and if descent were possible of full detail on the dam's side, a great many useful mares in the Kyle district of Ayrshire could be traced to this horse.

Poor Bob Hutchison met with a terrible calamity when in middle life during the early 'Sixties. He was feeding a chaff-cutter when his left hand got caught between the rollers. He stretched forth his right hand against the merciless blade (the wheels were open in those days), but in vain, and almost within the space of a moment those hands which had many a time and oft searched out side-bones were clean separated from the wrists. Yet his heart clung to the old business, and attended by a devoted old friend, the late Mr Briggs, overseer to the Duke of Portland at Craigend, Troon, he visited regularly the Glasgow Agricultural Clydesdale Stallion Show as well as the Highland and Agricultural Society's meetings. He was dead against side-bones and the like, and we on more than one occasion at Glasgow went over the hoofs of horses he intended to offer for if all correct. On one occasion when we found everything quite to our liking and reported a sound bill, he said, "Jist try again, man. Dan Crawford and I had a share in his father, and if this ane's clean he'll be a wee bit exception to the maist of them." We did as he requested and found that there was something of the kind, though in a somewhat embryonic stage. Had it not been for his terrible misfortune, Craiksland would have been in the very forefront of the Clydesdale business when the boom came in the 'Seventies, for no one understood draught horses better, and he was well versed in back line history.

Mr R. Guthrie.

Craiksland's neighbour was Mr Robert Guthrie of Crossburn, so well known in connection with the Ayrshire Agricultural and Kilmarnock Farmers' Societies, and a prominent man in nearly every Ayrshire agricultural movement. He held the largest stud of farm-horses in the West of Scotland, requiring from twelve to fourteen pairs to work his extensive holding, a great portion of which was under green crop, and cultivated highly with Crosskill grubbers and other implements which involved toiling draught. Like his father, who came into the tenancy on the acquisition of the Fullarton estates by the fourth Duke of Portland, he would have nothing but browns and bays. He rarely, if ever, exhibited at shows, but many of his mares were of a grand, sound-built, active stamp, and no doubt holding Vandernoot blood, and dealers were always glad to get hold of something from them that might be put on the market. As a rule, all he bred he kept for his own work, whether colts or fillies. He had one specially good mare, sired by Clydesdale Tam by Arkley's Lothian Tam, which he served with Old Campsie when the latter was in 1868 the Ayrshire premium horse. The result was Young Lorne, a very stylish bay horse, which in the hands of Samuel Clark won the second prize at the Highland and Agricultural Society Show at Stirling in 1873. In 1873 he travelled in Bute, where he became sire of Rose of Bute's first foal—Rose of Bothwell. This half-sister to Rosebud, dam of Moss Rose, unfortunately foundered shortly after winning first prize at the Bothwell Parish Show. The great grand-dam of Druid was a Crossburn mare.

Mr Andrew Hendrie.

Mr Andrew Hendrie, whose name occurs in the pedigree of Farmer's Glory, the Shire horse brought from England and which acquired note as the sire of the dam of the Knockdon stud-horse Old Times, was a bit of a character in his way, and until his eyes went wrong there was no better judge. He came of an old Ayrshire horse-dealing stock, and married a sister of one of the numerous horse-dealing Kilbarchan Clarks. Setting up in business in Ayr early in the 'Forties, he did a large trade with the Ayrshire farmers, forming a medium of connection between the breeders and those who bought for the towns. He rented a place close to "The Fauldbacks," where the Ayr Horse Fair was annually held in those days, and his "string" was generally considered to be the best at such gatherings. Though he drove hard bargains—most horse-dealers do—he had a fund of dry humour, and his stories, anecdotes, and imitations made

him generally welcome at most firesides. "Come away, Andrew," we once heard him addressed, on calling at a farmhouse intent on buying a heavy gelding; "you horse-dealers are aye growling. Are you never to get your ain?" "Oh, deid, and we'll get our ain," was the reply, "when we sport a black hat like the lum o' a portable threshing-mill engine on Sunday and a face as lang as the toun of Darvel, jist like your neebor the elder ower the way." Latterly his eyesight gave out almost entirely, and, of course, it was not easy for him then to buy on his own judgment.

After her husband's death towards the end of the 'Sixties, his widow, who was a very clever, managing woman, converted the place into a hotel. The late Duke of Atholl having rented rooms from, and quartered his Ayrshire cows with, Andrew when present at Ayr Show in 1861, the year his Grace's celebrated milking-trials were conducted in the yard, she named the place "The Atholl Arms." From its just being situate opposite the gate of the old Ayrshire Showyard in the Midton Road, the "Atholl" yard became favourite headquarters for Show Clydesdales, and more particularly Ayrshires, the representatives of the latter from the Knockdon Stud being walked down the previous night to undergo what was necessary and legitimate in their final preparations.

An interesting arrival at "The Atholl" on the afternoon before the Ayr Show was that of "Doctor" Bob Wilson, the Madam Rachel of Ayrshire cow-dressers, with his mysterious carpet-bag, and which it was generally known contained cakes of soap prickly with a hundred needles to puncture and swell up hollows in udders; blow-pipes, to pneumatically hide hollows between carcase of back and skin; collodion, to shape teats; and tapes of a flesh-coloured tint, to tie up the latter and check the natural flow of milk. We live in a more civilised and sensible age, and all such practices are fortunately now banished from the showyard.

Numerous Clydesdales, notably several of the Lord Lyon young stock, both colts and fillies, stood in "The Atholl" the night before earning their maiden victories, and were subject to the criticism of the few who were allowed the privilege of inspection. Many were, however, stabled across at the Old Ayr and Galloway Inn, which was Mr Drew's sleeping quarters when he did not happen to be judging—judges being located at The King's Arms.

Mr Oliphant Brown.

Prominent of old time Kirkcudbrightshire breeders was Mr Oliphant Brown, Shiel, New Galloway, a central figure in the Clydesdale horse-breeding world for thirty years, his period

ranging from the later 'Fifties to the later 'Eighties, this covering some useful work in connection with the establishment of the Clydesdale Horse Society and the execution of the Clydesdale Stud Book. He was trained to everything connected with land management in Fife, his native county, and in 1851 he entered upon an engagement as land-steward with Mr Maxwell at Glenlee, in the Glenkens district of Kirkcudbrightshire. On the death of the laird of Glenlee, Mr Brown became tenant of Shiel. This remote part of Galloway, "the west" from out of which came Young Lochinvar, was in want of some one with a spirit of development at the time, and he soon effected marvellous changes.

Somewhere about 1853 Mr Brown started the Glenlee herd of Galloways and stud of Clydesdales. The former was dispersed in 1868 when he gave over twelve of his best heifer calves to the late Mr Cunningham, Tarbreoch, at what was at the time considered a handsome price. His chief show-yard mark was, however, made with the Clydesdales, winning prizes at the Highland and other Shows with Glenlee Maggie and many other animals. He was partial a little to Lochfergus blood, though "Old Lochy had some few faults," he was wont to observe, as he handed you his silver snuff-box. Notwithstanding such minor faults he bought and travelled him in Kirkcudbrightshire, where he got Mr Peter Crawford's Crown Prince, the Glasgow premium winner of 1873.

When we were engaged getting up the Kirkcudbrightshire chapter of the Galloway history we did a drive through amongst all the leading breeders with the still living Mr John Thomson of Blaiket and Mr Brown. We spent a very happy night at Glenlee, and there was much talk over Pride of Scotland, the grand dark bay colt, bred by William Gray of Muncraig, by Clansman, which, when Mr Brown's property, travelled in Wigtownshire before going to Strathmore. The Pride won first prize as a two-year-old at the Highland Show at Inverness in 1874, when the property of the late Robert Brewster of Kilbarchan, and was subsequently sold to Mr James Walls of Kaipoi Island, Canterbury, New Zealand. Next evening at Muncraig Mr Gray rather rubbed it a little into the co-owners about parting with the colt too soon. Mr Brewster did not do well after he parted with this horse, and his stock was sold off under somewhat melancholy circumstances in the Glasgow Cattle Market in 1879. His best colt, Bonnie Scotland, second prize at Dumfries Highland Show in 1878, also went to the Antipodes.

"Shiel" was a man full of anecdote, and could tell many

humorous stories of his experiences, and this quite outside of the Clydesdale arena. At Glenlee one year he was visited by a veritable plague of caterpillars, which threatened to devour everything. His neighbours, equally afflicted, were trying lime and all sorts of chemical washes. He laughed quietly to himself, and went away down to Castle-Douglas and Kirkcudbright and bought all the available live ducks in the market. "Shiel had gone daft on ducks," they said. Getting home all the web-footed lot, he set them in at the top end of the flaked-in turnip drills, and let them make their living. The ducks, finding themselves in a sort of paradise, soon cleared up everything, and "Man," he used to observe, tapping his snuff-box, "at the end o'a month you never saw such thriving turnips or such fat ducks."

Mr Brown, thinking, as he said, "I might get a foal or two off Logan's Twin," took the latter to Glenlee when his friend and oft-times fellow-judge, the late Mr Alexander Young of Keir Mains, had done with him. In this, however, he was somewhat disappointed, though she bred to him at Shiel, Sally of Blackhills (282), which he sold when young to Mr Sinclair, Trochiehouse, New Galloway. He had a great regard for the old horse, and when he had to put him down in old age he found a grave for him close up to the hedgerow in one of the fields leading from Glenlee to New Galloway, placing over him a large boulder stone which had been gathered out of the adjacent ground in clearing it for purposes of ordinary cultivation. Frequently officiating as judge, his probity and independence being undoubted, it cannot be said that he was in any way committed to any fixed type. He was partial always to quality and action in the horses, but would forgive a little deficiency in this direction in the mares. "With so many short-ribbed sorts coming under you, you cannot well help admiring a mare with some bounds for breeding." Mr Brown left Shiel for Duchrae, in Balmaghie, Kirkcudbrightshire, but retired from farming in 1889. He died in April 1899, aged seventy-eight years. He judged at Perth Highland Show in 1887. His last success as a breeder lay in the victories of Cawdor Cup, the famous champion, and which was out of his mare Lady Lawrence. A mare which Shiel judged frequently, and was very fond of, was Rose of Bute, the mother of all the celebrated Roses family. He was for a long time chairman of the Glenkens Horse-breeding Society, and to a large extent was entrusted with the choosing of the stallion for the district.

Mr W. Gray.

Mr William Gray of Muncraig, Kirkcudbrightshire, was long in the front rank of Clydesdale breeders and exhibitors, and his knowledge, together with his probity and independence, caused his services as judge to be in much demand at all the leading exhibitions throughout Scotland, as well as at the Royal of England. Though his stud of mares was small it was very choice, and whilst quality was a notable feature, there was no falling off as regards size, weight, or strength of bone. His best mare was possibly Jean, by Lochfergus Champion, which, after she passed into the hands of Sir Robert Loder, became known as Whittlebury Jean. She won first prize at the Royal Agricultural Society's Show at Bristol in 1878, but is best known as the dam of Brewster's Pride of Scotland, alluded to in our notice of Mr Brown of Shiel. Mr William Montgomery has at Banks a daughter of Jean by the Whittlebury horse Stonehenge.

Of a gentle, genial manner, Mr Gray had not only numerous friends in his own county, but throughout Scotland. One cannot say that he was partial to any particular type, but he was a thorough stickler for the adage "No hoof, no horse"; and if horses before him were weak at the ground, he did not give himself much concern over them. Mr Gray died at Ilkley, Yorkshire, in October 1888, but his remains were brought to Muncraig, and he was laid to rest in the parish churchyard of Borgue, the funeral being largely attended by leading Clydesdale breeders and farmers.

Being anxious to clear up the obscurities surrounding the Kirkcudbrightshire pedigrees, we, in company with Mr John Thomson of Blaiket (who once owned a very good Ayrshire-bred horse, Enterprise, a Highland Show prize-winner) and Mr Brown, drove to Muncraig, dining on our way at Mrs Muir's, Lochfergus, where was bred Lochfergus Champion. The late Mr Muir, her husband, was a brother of Mr Thomas Muir of Bowhouse, Carmichael, the latter being the family headquarters. We stayed the night at Muncraig and had a fair good turn at the pedigrees. Muncraig could not, however, help one in any way regarding the pedigree of the dam of Moffat's Conqueror, the sire of Darnley, which was bred in this neighbourhood. All he could say was that "she was a clever, active little mare, and as like as not come of stock bigger than herself," and that "I've often seen such get stock much bigger than themselves." Along with Shiel he felt inclined to attribute Darnley's outstanding merit to the fact that Conqueror was by Lochfergus Champion, and that his dam, Keir Peggy, was by Logan's Twin (Samson).

Mr Alexander Buchanan.

A gentleman of very similar stamp to Muncraig was the late Mr Alexander Buchanan of Garscadden Mains, Dumbartonshire, an old friend, and who often judged along with him. His best mare in his later years was the famous champion Garscadden Maggie, a daughter of his Wigtownshire Victor mare, Lovely. This was considered to be the genuine stamp of an old-fashioned Clydesdale, being powerfully set on short legs, with well-rounded barrel and flat bones. She was modelled in bronze by the brother of Rosa Bonheur, the famous animal painter, and from this model we had taken the embossed seal of the Clydesdale Horse Society. When the Society presented two cups for competition at the Royal Agricultural Society's Show at Kilburn, London, in 1879, we had a model of Prince of Wales executed to surmount the male trophy, and that of Maggie for the female trophy. It would have been better if this had been arranged *vice versa*, for Mr David Buchanan, who had succeeded his father in the tenancy on the latter's retirement, won the first with Druid; and our present King Edward secured the female cup with the Prince of Wales filly which Mr Drew presented to his Royal Highness over the Royal visit to Merryton in the month of January the previous year, 1878. Hospitable and the best of company, Mr Buchanan had a large circle of friends both in Glasgow and the surrounding country. He was present at the first show of the Highland and Agricultural Society at Glasgow in 1826, also at that of 1897, then bordering on his ninetieth year. He did not live long afterwards, and inside a year his son, who was seventy years of age, followed him to the grave. Mr Buchanan never went in for keeping stallions, and it was somewhat of a surprise to many when it was learned that David had bought the famous Druid, when a three-year-old, from Mr Hendrie of Kirkwood. Druid and Maggie represented his ideal Clydesdales—blocky, with good feet and pasterns, and possessing genuine Scottish characteristics. The Roman-nosed or angular profiles, made common by Prince of Wales and the south-country mares brought to Merryton, he had no liking for.

Mr Lawrence Drew.

It may be opportune at this point to notice the celebrated Mr Lawrence Drew, who has every right to be called the pioneer of modern draught horse breeding. He, at any rate, was the first to throw into it that enterprise which has made it what it is on both sides of the Tweed at the present day. His father, Mr Lawrence Drew of Carmyle Mills, was an enthusiast in breeding all classes of stock,

but more particularly Ayrshires, and his herd had the name of being one of the very best in the Clyde valley. He also bred a few Clydesdales in an ordinary farming way, there being, as at Garscadden, no more mares kept on the holding than was necessary to do the work. He exhibited at the local shows with much success, and won also several leading honours at the early meetings of the Highland and Agricultural Society. Lawrence Drew, as he many a time said, owed most of his knowledge of stock to his father, whom he greatly revered. His own position in the Clydesdale world cannot be said to have been taken till he was commissioned by the Duke of Hamilton to purchase a horse and such mares as would take leading honours at the great International Show to be held at Battersea, London, in 1862, the year of the great exhibition. He, with much judgment, selected Sir Walter Scott and the Highland prize-winning mare known as Park's Maggie, the latter henceforward to be known as London Maggie, one of the most successful of showyard and brood mares he ever possessed.

Mr Drew bred many noted prize-winners, pure Clydesdales and Stud Book combinations, and at the period of his far too early death he was recognised throughout the world as the leading authority on draught horse breeding. Annual sales, attended by breeders from all parts of the world, were during the 'Sixties held under Mr Drew as manager, the last of these ducal gatherings being on September 7, 1863 (the Duke died suddenly in Paris in July that year), and Mr Andrew Hendrie, Ayr, came through and bought the five-year-old mare Rosy and the five-year-old mare Darling, the latter at £81, which was considered a good price in those days. In 1866 Mr Drew, who had been factor to the trustees, resumed his old position as tenant of Merryton, held a dispersal sale of all the stock on the place, the successor to the title, who had been a minor for three years, resolving to discontinue stock breeding. There was keen competition for the Clydesdales, and it was not till the hammer fell at £220, in competition against Mr Alexander Young for the Keir stud, that a grand four-year-old mare was retained on the premises. As every one knows, his ideas were to mate Shire mares with his Clydesdale horse, Prince of Wales, but as this is controversial matter it will best be avoided here.

Mr Peter Anderson.

Mr Peter Anderson, Gillespie, Glenluce, was a son of Mr Robert Anderson of Drumore, the founder of the celebrated Wigtownshire Clydesdale family, and represented by such noted horses as Victor, Salmond's Champion, Lochfergus Champion, and others; and in later days their descendants, Drumflower Farmer (286)

and his noted prize-winning sons, Disraeli, Sir Colin, and Druid. Whilst getting together matter for the introductory history to the retrospective volume of the Clydesdale Stud Book, the writer spent several days with him in Wigtownshire, though we first became acquainted over harness horses at Ayr Show. He and his brother Robert used to exhibit at Ayr carriage horses of the highest class—all bought in Cumberland and Westmoreland and broke and trained by themselves. The class of harness horses handled by the Andersons was of the highest standard; and on more than one occasion they realised as much as 600 guineas the pair, a big price when it is considered that there were then no stud-books or annual fashionable gatherings such as we are familiar with nowadays. Peter's sister being married to Mr James Salmond of Benston, Renfrewshire, owner of Salmond's Champion, he had a strong connection with the Glasgow district. This was further strengthened by the marriage relationship of his family to the late Mr John Dick, Willowpark, Airdrie, noted for his love of fast trotters, and the owner at one time of the celebrated Scottish trotting horse Champion Douglas. Mr Dick managed the extensive Clydesdale and trotting studs for Mr John Hendrie of Kirkwood, and so far at least as Clydesdales were concerned, he (Mr Dick) acted upon Mr Anderson's advice. Hence we had at Kirkwood, Coatbridge, Drumflower Farmer and the two noted horses, Disraeli and Druid, already mentioned.

Mr Anderson was terribly afflicted with deafness, and it was hard to converse with him over old-time matter in relation to Clydesdale horses. Like most men whose hearing is dulled before its time, he was exceedingly studious and reflective. Naturally enough he thought a great deal of the Victor blood, though he was very broad-minded as regards the general principles of draught horse breeding. "The Victors," he used to say, "are very safe, and you must have an idea as to where you are going when you start to put mares to horses." In the matter of management of either draught or harness horses he had little if anything at all to learn from any one; and as to showyard vanities, though he may have valued the honour of wearing a judge's rosette, they never put him up or down. Not too successful latterly in farming, he was given an appointment with Messrs Carter & Sons, the well-known seedsmen, and he arranged all their beautiful stand at the Nottingham Royal of 1887, returning from his labours in the Clydesdale show-ring as judge to go on with his work as an exponent of the firm's capacities in the seed line. In recognition of his eminent services, the Council of the Clydesdale Horse Society made him an honorary member.

As is well known, it was the assimilation of old Lanarkshire

blood, as represented by Victor and co-relatives, with the half-Shire and half-Clydesdale blood as represented by Lord Lyon's stock (Lord Lyon by Hercules (Clydesdale), dam Puppet by Iron Duke (Shire)) that made the Lyon family fashionable, the stock of Lord Lyon taking a very forward place at all the leading West of Scotland shows, as well as the Highland, throughout the 'Seventies, though with a certain section of the old school of judges they were not in favour. "Unless from Victor mares, or mares of the old Drumore blood, Lord Lyon gets nothing very remarkable," said Peter to the writer in presence of Lord Lyon's owner, the late Mr John M'Master of Culhorn Mains. Mr M'Master admitted this very readily, but instanced some few cases where Old Lyon, as he called him, had been successful when mated to mares outside of the Drumore family.

Mr John M'Master.

Mr John M'Master was perhaps more identified with dairying than with draught horse breeding,—his essay on Cheddar Cheese-making in the 'Transactions' of this Society is one of the most practical ever published,—yet he had a clear idea as to what was wanted in the modern Clydesdale, and this without any assimilation of Merryton ideas. "More bone, bigger knees and hocks, and more substance and weight generally," was the general trend of all his arguments in conversation. "At the same time," he said, "we must try and keep all the pastern we can." The "Young" Lyons were always rough-coated when the Ayr Show came round, and carried a free flow of feather. Old Lord Lyon was anything but a Scotchman's horse. He was widely framed, strongly furnished, and conveyed the idea of power, but he was of a lymphatic temperament. Any horses of this Lyon family which displayed action and merit in the show-rings were generally related to old strains hailing from Lanarkshire or Renfrewshire. Personally, there was no more nicely-mannered, more courteous, or more estimable gentleman than Mr M'Master. In getting up pedigree work, his kind efforts in this direction led to the clearing away of a good deal of obscurity so far as Wigtownshire horses were concerned.

The Kerrs of Lochend.

The Brothers Kerr of Lochend, Kilbirnie, in the Cunningham division of Ayrshire, were associated with the keeping of Clydesdales for more than half a century, sometimes in partnership. When William went to Newhouse, Dalry, the adjoining parish, they were generally to be found showing on their own account, though the colts were invariably sired by each other's horses.

They are best remembered from Lochend Champion, which won first prize at the Highland Show at Perth in 1861, and stood second to Sir Walter Scott at the International Show at Battersea in 1862, the horse being then entered in William's name. James Kerr is best known through his having owned the twice Glasgow premium horse in 1870 and 1871, Kerr's Conqueror (196), a dark bay hard-boned horse, which found much favour and patronage in Wigtownshire, where he travelled in 1872.

The Brothers Kerr, both quiet unassuming men, were quite content with such modest fees as £1 per mare. Indeed, the writer recollects how jubilant Mr James Kerr was (1870) when, in the Glasgow Agricultural Society's Committee Room within the Cattle Market Inn, Glasgow, he waited upon him to sign beneath the judges' award the condition of acceptance and receive his silver medal. The premium then was but £40, and the service fees payable at end of season £1, 5s. per mare. Six years afterwards (Darnley's year) the premium had increased to £150 and the fees to £2 at service, with £2 additional for a foal.

Old Rakerfield.

We called, when hunting up Ayrshire pedigrees, at Lochend, and got some useful lines, though not just exactly what we wanted, which was more minute details about William Fulton of Sproulston and his horses. "Old Rakerfield is the very man for you: he was Sproulston's intimate friend," was, however, good news, as we had been informed that the old man had been dead some time. Directing us how to find our way, for the place, we were assured, was a bit lonely, we bade Lochend good-bye. In regard to the class of Clydesdales handled by the Kerrs, we need only to point to numerous prize-winners which now date their descent to Lochend Champion and Conqueror.

Kilbirnie, with Beith and Kilbarchan, were associated throughout the whole of the eighteenth century with horse-breeding or dealing—the former with Kerrs, Beith with the Crawfords, and Kilbarchan with the Clarks. As is well known, the Crawfords up to the present day conduct a very large business in work horses of all kinds, but more particularly those suited for agricultural purposes or town work. Kilbirnie is now a mining and iron-working centre, and is almost void of all its old rural associations. We followed James Kerr's directions as well as we could, though the old pony had it all on the collar, and the windings and twistings were of the character of a purposely made maze. Francis Semple, the author of "Maggie Lauder" and other songs, was born and bred on the edge of Lochwinnoch, the wooded shores

of which we could make out at times just to the northward of what might be called the Dead Lake of Kilbirnie, the latter illuminated at nights by the weird glow—somewhat suggestive of the fate of Lot's wife—of the Glengarnock Iron Works. Soon we were in a lone country, the land of Kate Dalrymple, "where peesweeps dwell and whaups and plovers cry eerie."

There was not a human being to be seen at hand; and the pony being of a docile disposition and one of the few that possessed the rare virtue of learning how to stand still, more valuable in many cases than high or flying action, we tied the reins to the post of the gate which guarded the headrig-like roadway, which, from our directions, we made certain would lead us to Rakerfield. The place is curiously situated high above the level of the lake, and is somewhat picturesque in its loneliness. Making out what we believed was the steading, a long range of buildings of the very old North Ayrshire style of farming architecture, we entered the first open door, which we found to be that of the byre, and pushed straight through to what we found to be the kitchen. Except for the ticking of an old eight-day clock in the corner, there was small evidence of the place being habited. However, we had not long to wait, for there suddenly appeared from an adjoining compartment an old man quite doubled up with age.

"And what may be your wull, sir?" asked Stevenson good-naturedly. On our telling him we were hunting up pedigrees for the Clydesdale Stud Book, he bade us take a chair and make ourselves at our ease. It was not long before we got to work. He and Sproulston had been together at Lanark Fair in their youth as regularly as it occurred. He had been with Mr Fulton and Mr Robert Anderson, Drumore, Wigtownshire, when the selections were made which, as mentioned in the introductory history to the Stud Book, laid the foundation of the Wigtownshire family of Clydesdales. "What sort of colts were there at Lanark Fair in the first days you went there?" we asked. "Oh, nice, clean flat-boned colts, with a lot of style and action about them. I don't know that they improved later on. I ken I was in —," mentioning a favourite horse-dealer's hostelry in Lanark, "at the close of the Fair when things ran gay warm about the introduction of a horse from the South into the neighbourhood. It was said that the horses were all flat-boned before this horse, whatever he was, came in; and some went so far as to say that they would have been better to have bought this horse and sent him out of the country. Sproulston bought a good many from Hugh Elder of Colomba, Carstairs, and his brother, Peter Elder; but used to say that though Elder's sort had bigger bones and more hair than Frame's of Broomfield, the latter had more style and action and the flatter

bones, and of the two he liked the razor-legged sorts best. He worked a good deal in the direction of getting the best points of both. He had a quick eye in a fair for anything that suited him, and very rarely made a mistake."

We had a long chat about Mr James Salmond of Benston, the owner of the famous Drumore horse Salmond's Champion, full brother to Victor. "Ay," he says, "Jamie Salmond kenned what he was doing when he bought that horse, for he had seen the mother at Sproulston before she went through into the Galloways with John Brown o' Brownmuir's guid mare, and he knew what sort of a good breeding horse was Sproulston Old Farmer. Ay, Salmond had Old Rob Roy. We never thought much of him hereabouts. He had a noise and a rinning in his nostrils, and was sometimes talked about as the horse that went with his nose in a pock. The reason he bocht him was, I think, because he had his father as a gelding." The writer may here refer to Rob's history in the Introduction to the retrospective volume of the Clydesdale Stud Book.

A further chat about John Barr of Barrangry, owner of Prince Royal, who, leaving Renfrewshire, settled down at Harperland, Dundonald, Ayrshire, brings us to Muircock (bred by himself), Robbie Burns, and others. We wish to have any discrepancies in these checked. Though the old man is fresh of memory, he proceeds to an old-fashioned meal-barrel in a corner and brings forth a handful of old stallion bills, some of them almost faded with years. They contain nearly all that we want, but we run over them to see if there's nothing that needs clearing up. This over, we enjoy a little of old-fashioned hospitality as dispensed by his son, who has just come in from the fields, and make our way back to the pony and gig,—our next queries, which are of a brief nature, having to be made in the immediate neighbourhood of Beith.

Mr Samuel Clark.

Mr Samuel Clark of Manswraes (originally of Damtown) was much associated in the stallion business with Fulton of Sproulston, and for quite half a century, beginning with the first Highland and Agricultural Society's Show at Glasgow, his name was to the fore as an owner of successful stallions. His different Clydes, Loftys, Princes, &c., have all been fully enumerated in the stud-book. A shrewd, canny buyer, he rarely made a mistake over a coming young one. As Peter Crawford remarked in the writer's hearing once when the talk was over a certain purchase for Manswraes, and about which comments did not run favourably, "I dinna care what ye say; if Sammel has bocht him, he'll no be a very bad ane." Like his friend

Sproulston, he was partial to the razor-legged sorts of Frame of Broomfield. He, however, did a good business with England, and could always dispose of types after Young Lofty, a blocky Glasgow premium horse, which he sold to Lord Beauchamp to go into Gloucestershire, where he became sire of Drew's famous prize-winning mare Countess. The late Thomas Shaw of Winn-marleigh, who bred the famous double champion of the Shire Horse Show, Vulcan, has often told us how he made his first start in breeding with horses got by Samuel Clark's Clyde (155); and he was good enough to send us a batch of his first stallion travelling cards, in which the Scottish successes of the horses were as clearly detailed as in the Manswraes cards.

Mr Andrew Leiper.

Mr Andrew Leiper of Yardbent, Strathaven, Lanarkshire, acquired any note he may have had as a Clydesdale breeder through Prince, *alias* Prince Charlie (603), which won the second prize in the aged class at the Highland and Agricultural Society's Show at Glasgow in 1850. This horse, as the property of Samuel Clark, travelled various districts throughout Scotland, and there is no doubt had an improving influence. Bred in the very centre of the Clydesdale country, Mr Leiper was an undoubted champion of the preservation of the characteristics of the old breed. He had a capital memory for forms, colours, and types, and when quite a lad, seems to have been most impressionable in the matter of such noted draught horses as came under his vision. He also possessed the somewhat rare habit—rare, at least, amongst Clydesdale breeders—of noting down events and incidents. This made him specially useful when pedigree history had to be sifted by the Editing Committee of the Stud Book.

Sandy Rodger.

It fell to the writer and Mr Leiper to interview Sandy Rodger, the aged leader of Broomfield Champion, regarding the lineage of the latter horse, which was generally put down as sired by "James Thompson's Black Horse." There were, however, two intermediate Glancers, and the descent had to be put right according to the different stages. Sandy was eighty-nine years of age at the time, and an inmate of Hamilton work-house. Though his memory was still fresh for a man of his years, and more particularly so about Clydesdale horse-breeding matters, Mr Leiper, who knew the ways of the old man, thought he might need a little stimulant in this direction. "Sandy aye liked a wee drap o' rum when he was going round

with the Champion," he said; and so he received a small drop in a flask, though the workhouse rules were against anything being done of an illicit character in this direction. Sandy at first did not seem to understand the object of our mission, thinking, indeed, that we had come to ask about his old master, James Frame, and treated us to a poem of his own making, which was all relative to the ability of Jamie Frame and his enterprise in carting lime, horse-breeding, and everything connected with agriculture. When we mentioned Frame's Darling, the dam of Glancer I., son of Thompson's Black Glancer, and grandsire of Broomfield Champion, he warmed up immediately, and explained in every detail the parentage of the latter famous horse, as fully detailed in the introductory history to the retrospective volume of the Clydesdale Stud Book. It is needless to state that he thought the world of Champion, a dark bay with four white legs, in every way shapely and vigorous. He spoke much in praise, however, of Mr Frame's two grand mares, Darling and Brown Bess, the great-granddam of Champion, who was, curiously enough, out of a grey—a mare of some merit bred by Mr Purdie of Spittal, Carnwath, and which, when mated to Glancer II., belonged to Mr Orr of Shotts.

Darling was about the first mare which ever Sandy worked in cart or plough, and he thought her one of the cleverest and wisest. He seemed to think a good many of his old charge's excellences came from this mare, though Brown Bess was one of the best of her kind. The latter Mr Frame, on more than one occasion, rode to Glasgow Market. Glancer II., sire of Broomfield Champion, was known as the "lame horse," from a slight accident which befell him when a colt, he having slipped one of his legs between the planks of a wooden bridge on the steading of Broomfield. He showed no lameness after he grew up, and was much thought of as a sire in the neighbourhood. Poor old Sandy did not live long after he had given us his most useful and interesting story. We opened a subscription sheet to try and take him out of the workhouse, but Mr M'Kean, Lumloch, who had been at the head of a small party who, thirty years previously, got him a testimonial, which took the shape of a small sum of money and a silver watch, was of opinion that he was better where he was, provided that they might give him a few little indulgences in spirits and tobacco. The manager of the workhouse, who was interested in his old intimate, the last of an old lot of leaders which comprised Tommy Shearer, Sandy Barbour, and Laudon Cranston (the Bone-setter), who travelled his own horses, arranged to do this without any outside intervention; and Sandy passed away quietly in his ninety-first year. Mr Leiper lived to a ripe

old age, and took an active part in Clydesdale matters up to the last.

It was unfortunate that breeders, in such stallion handbills as they subsequently circulated, only made mention of descent from Broomfield Champion on the male line. There were, however, a very grand number of fillies got by him which subsequently became brood mares, many of them prize-winners. His old leader's memory, or such as remained of it, lay all with the colts; and though Mr Leiper could suggest some mares, he was not equal to recalling the facts. Indeed, as with most people who attain to a very old age, his recollection of the events of his early days was much greener and fresher than of those of a more modern period. Certain it was at any rate that Broomfield Champion was the first horse in the Clyde valley of outstanding note as a sire of superior stock. Any colts by him possessing a fair amount of merit were reserved from the castrating knife, and fetched good prices as sires to travel in all parts of Scotland, as also in England.

Mr Peter Crawford.

The late Peter Crawford of Dumgoyack, Strathblane, is still worthily represented by a family of sons who are more or less identified with the Clydesdale horse-breeding interest. He came right through the mill, from stallion leader to leading stallion owner, and there was very little of the history of our famous Scottish breeds of horses or the men connected therewith that he did not know. He was at the head of stallions belonging to the late Samuel Clark, with whom he was more than once in partnership, so far back as the first Highland and Agricultural Society's Show of horses, and which was held at Glasgow in 1826. The display at the Glasgow Show of the Highland was not altogether a very satisfactory one, possibly from the fact, as the late Mr Alexander Buchanan, who was present, expressed it, that the harvest was close at hand at the time, and farmers did not give much heed to horse matters after ploughing-matches, then all the rage, were over. The West-country breeders had also established an excellent agricultural show of their own in the Campsie district, and not far from where Peter earned much of his fame and the younger Crawfords were born and bred. He was a tenant of the late Admiral Sir William Edmonstone, Bart. of Duntreath, the plucky though somewhat eccentric old nobleman who, when the Irish obstructionists were at their highest point of power in impeding Parliamentary progress, literally lived and slept in the House of Commons in order to be present at every division.

The veteran tenant of Dumgoyack, who was very regularly to be found on Sundays in the gallery of the parish church behind the Duntreath family pew, used to say "Oor minister's a gey pawky ane. He disna pray for the *Army*, *Navy*, and *Volunteers*, but for the *Navy*, *Army*, and *Volunteers*; and the auld Admiral I can hear aye say 'Hear, hear!'" Whether the parson benefited or not by improvements to his manse we know not, but the Dumgoyack steading boasted none of the loose-box or other commodious arrangements which are associated with the fashionable draught-horse establishments of the present day. As an English gentleman, one of a party from the south in search of a horse, observed afterwards to the writer, "It was like putting ferrets into a burrow and bringing out stallions from byres, barns, and every corner about the place—and a grand lot they were, every one ov'em, and beautifully groomed too."

It would be hard to say which was the best horse that ever carried the green ribbons of Dumgoyack, for Peter had handled many winners outside of those which he had held in partnership with Samuel Clark. Lofty Benlomond, the Glasgow Agricultural Society's premium horse of 1859, and first prize at the Highland and Agricultural meeting at Aberdeen in 1858, was one of a real good old-fashioned type. Lofty, first as a three-year-old at the Kelso meeting in 1863, he also thought a good specimen of the old Clyde breed such as he was familiarised with in his younger days. With Rantin' Robin he beat the famous Prince of Wales at the Dumfries Highland and Agricultural Society's meeting of 1870; but he never cared to allude to this victory, though he claimed Robin to be a very good horse. The best horse of his later days was undoubtedly the Kintyre-bred horse Ivanhoe, the Highland and Agricultural first prize winner at Dumfries. This grand old type of Clydesdale won the Glasgow premium in 1878, the latter up till this time carrying with it the Blue Ribbon of draught-horse breeding in Scotland. As a rule the Dumgoyack horses were blocky and short-legged, with flat bones, and never without hoof. They also lifted their feet clean, and "gave a good show" either at walk or trot. In alluding to the horses with which he was early in life associated, he said, "We did not want such very big horses then, nor for a long time after; breeding was all for farm work, and clever clean-legged horses with good action sold best." The veteran of Dumgoyack was rapid at coming to a decision—possibly a little too much so.

On one occasion he agreed to act as judge, an office he always felt a reluctance in holding. Something like a dozen yearlings were given him to commence with, and onlookers were beginning to wait for the usual walk, trot, lifting of hoofs, and what then,

as nowadays, was a general waste of time. They had just finished their second walk round the ring when Peter stepped up with his thick oaken staff and struck them as they passed in order of merit—*first, second, and third*. There were no commendations made, the further verdict being “Trash, a’ trash!” It is needless to state he was not asked again to officiate, as to keep up the popularity of even a parish show nowadays the veriest weeds must be looked at in an interesting way. Not to give a colt or filly a glance means that the exhibitor will not care to come forward with his stock again.

The veteran departed this life on 19th December 1891, having won all possible honours, and sold horses to all parts of the world, his first important transaction being his disposal of a colt by Sovereign (first prize colt at the Highland and Agricultural Society’s Show) to Lord Belhaven at the then handsome figure of £160, his lordship presenting him to the Grand Turk. With a fine open countenance, Peter had rather an appearance out of the common, and with a sturdy independence of character it was a pleasure always to do business with him. No matter what comments were made about any one’s horse he would never say a word against it, or pass any remark which might, he thought, injure his neighbour’s property or interfere with his making of a market.

Mr R. M’Kean.

Mr Robert M’Kean, Lumloch, a son of Robert M’Kean of the same holding identified with The Farmer of the Drumore pedigrees, was a noted judge and breeder in his day, and may be said to have represented the Cadder parish in this way. Like his old friend Mr Drew, he had been from his youth amongst Clydesdale horses and Ayrshire cattle, and was an undoubtedly good judge of both. He had a few good mares at Lumloch which dated back to his father’s old stock, and which were mostly of Broomfield blood. He won the Glasgow Premium with Premier (595); but the best horse from a breeding point of view he ever owned was Prince Charlie, which, when travelling in the Ardrossan and Saltcoats district in 1873, did much to establish history by becoming the sire of the Flashwood mare which, mated to Darnley, produced the noted horses Macgregor and Flashwood. Mr M’Kean had a nice, homely, genial disposition, and was always equal in company to tell some anecdote bearing on the general conversation.

Mr M’Kean was fond of good, old-fashioned sorts, and was for this reason rather partial to Galloway blood. He proved a very useful member of the Editing Committee of the Clydesdale Stud Book.

Mr D. MacFarlane.

Mr M'Kean's name quickly brings to one's mind another most useful member of the Editing Committee, a noted Dumbarton Clydesdale judge, the late Mr Duncan MacFarlane, of Torr, Helensburgh, whose stalwart and portly form was familiar in all northern show-rings. He judged Clydesdales at the Carlisle Royal Agricultural Show of 1880 along with the late Mr Andrew Mitchell of Alloa, the well-known breeder of Shorthorns. He bred two outstanding horses in Lord Clyde, which was first in the aged stallion class at Stirling in 1864, and Prince of Wales, first prize two-year-old at Inverness in 1865: the latter he always claimed to be *the* Prince of Wales. Mr MacFarlane used to wax exceedingly eloquent over what a true Clydesdale stallion should be like, and after enumerating the usual ground points as to their being round and deep at the barrel, wide and broad at the torrs, would insist upon them having broad foreheads, full big eyes, and big lugs (ears). Darnley, he thought, was a wee bit powney-lugged; his ideal head being that of Mr Johnstone's (of Lochburnie) Crown Prince, which certainly was a horse possessing a very large amount of old-time Clydesdale character. He did not by any means like small Clydesdales, or what he called flash-legged sorts—*i.e.*, colts with a great profusion of feather but not much bone in front of it.

A representative breeder, stallion-owner, and judge with whom Mr MacFarlane often acted was the late Mr Alexander Galbraith, of Croy, Cunningham Killearn, Stirlingshire. His best horse was the renowned Topsman; but Tintock, a half Shire, was quite the equal of the latter as a sire of stock, one of his progeny—the Auchendennan mare Darling—being the dam of Damsel of Auchendennan, which was practically invincible in Scottish show-rings. Mr Galbraith's only surviving son is head of the great American Clydesdale horse-breeding firm of Galbraith Brothers, Janesville, Wisconsin—a firm which has done an immense lot for popularising the Clydesdale in the Western States of America.

Mr Alexander Young.

One of the most notable authorities on Clydesdale horses was the late Mr Alexander Young, of Keir Mains, Dunblane. He put together and managed the famous Keir stud, and was responsible for the production of Darnley and many other noted horses and mares. He was a frequent judge, and was held much in esteem throughout the Clydesdale world generally. Long retired from interests agricultural, he departed this life

at a ripe old age on 21st December 1902, the last survivor of a very old school of Highland and Agricultural Society Showing judges.

The Upper Ward.

Though the Upper Ward of Lanarkshire, the original cradle-land of the Clydesdale, lost its position largely through the dissemination of the breed throughout the Lowlands and north-eastern Highlands, and the foundation of studs in the Lower Clyde valley such as those of Frame of Broomfield and others, who entered heartily into the emulation of showing when the Highland and Agricultural Society's exhibitions commenced, there were many, like the Somervilles of Lampits, the Muirs of Bowhouse, and the Weirs of Sandilands, who still retained their ancient breeding instincts and their hereditary love of the old-fashioned stamp as represented by quality, style, and action. Till at least twenty years after the rebellion of 1745 there was small demand for agricultural horses of the modern lorry or dray type. Colts bred and grazed on the rich Clyde haughs at the base of Tinto were well grown at two and a half years old, when they were taken through to Ayrshire and Renfrewshire to plough the lea for oats. Seeding and harrowing over at Easter, they were invariably found to be in good fettle for the heavier and more intense cultivation of the Lothians.

That the systematic breeding of Clydesdales in the Upper Ward had a very ancient history may be noted from the fact that octogenarians (1878), bred and reared in the district, who had conversed with their grandfathers on the subject, were all of one opinion—viz., that special attention had been paid to the subject as far back as hearsay memory, in the days before printed records could be expected to cover. The Thomsons of Lochlyock, as mentioned in the introductory history to the Clydesdale Stud Book, were amongst the first, if not the very first, to introduce Black Horse blood into the neighbourhood, and to have altered slightly the ancient contour and character. There were several standards of size and weight amongst the Flemish or Flamand Border breeds introduced into the country, and those brought into Lanarkshire most likely were about fourteen hundredweight, which was about a couple of hundredweights over the weight of Scottish native stock.

In our run through the Upper Ward we met many—amongst others Bailie Somerville of Strafrank, a member of the Lampits family, and who, after years of successful business in Lanark, was enjoying the ease of retirement—who could speak of the old glories of Lanark Fair. Though he could not go back in memory to the ploughing-match held at Lampits under the auspices of the Highland and Agricultural Society in 1804, he had heard it

spoken of, and as to the special excellence of the twenty-three pairs of horses engaged. These early ploughing competitions of the Highland and Agricultural Society did a great deal towards stimulating draught-horse breeding at the commencement of the past century, and they may be said to have completely driven out haulage by oxen. The mother of Mr Thomson, the tenant of Lochlyock, when we visited the latter farm in 1878, was still living, though over ninety years of age. Though very deaf, her memory was still quite fresh, and she had a happy reminiscence of being one of a party who danced at the rejoicings on the top of Tinto when news arrived of Wellington's victory at the battle of Waterloo. The Lochlyock mares she remembered as having a high local reputation, and their stock was much sought after in her early days. Beyond the knowledge that they were blacks, with streaks of grey hair on the under parts of their bodies, the old lady could not well recollect. Mr Thomson, her son, however, gave us to understand that these streaks of white or grey hair were held to be indicative of hardiness. If so, this would readily point to the fact that, though the Black Flemish blood was associated with greater size, the old-fashioned Lanarkshire blood, as contained in the greys, asserted in crossing its power through heredity.

The Upper Ward farmers were for a long time interlocked by marriage, and the family relationships no doubt extended to the intermingling of the studs. The Clarksons of Shotts Hill Farm and the Somervilles of Lampits all seem to have drawn on Lochlyock blood, either by purchase of fillies or by the use of colts bred from Lochlyock mares. The original Lochlyock black mares were evidently descended from a pure Flamand Border stallion, as Bakewell in 1734, the date of the introduction of the Lochlyock black horse, had not started his crossing experiments with the Flemish black stallion and the old sooty, massive, but in every way English, black mares. All this Upper Ward half-black blood in time got fused with the Bakewell introductions, a few of the very old school, fortunately, in the subsequent interests of the Clydesdale, remaining out. The horse Blaze belonging to Mr Scott of Brownhill, winner of a premium at a show held within the Grassmarket at Edinburgh in 1783, seems from descriptions and portraits of descendants in Professor Law's book on Domestic British Animals, to have been quite free from the Bakewell or any other medium of Dutch influence. The bay mare "Meg" in the work alluded to, with her long back, well let down hocks and stifles, and pasterns sloping down into proportionate feet, would, 80 years after she stood for the artist, if given a fringe of feather fore and aft, prove a very typical representative Clydesdale of the present day.

Mr James Weir and Mr Tom Muir.

Blaze's blood has been long commingled with the common Clydesdale stock of the country, but Mr James Weir, so well known in the judging ring, has still some stock which are descended from the famous horse owned by Mr Scott, his great-grandfather. Mr Weir's father, an octogenarian when we called at Sandilands (the now veteran judge was busy mowing hay that day), was upon a visit to another octogenarian neighbour, Mr Tom Muir of Bowhouse on the Carmichael estate, one of a family famed in Clydesdale history through the tenants of Sornfallow in Lanarkshire and Lochfergus in Kirkcudbrightshire. A great tall man, slightly stooped with age, of massive features, with a few black hairs streaming through his silvery locks, Mr Muir gave one an idea of the class of old Lanarkshire burghers whose chief duties were the repelling of English invaders. On going on to Bowhouse I found him and Mr Weir discussing old-time Clydesdale horse history. Both of them could go very far back, just if anything a little too far back for my special purpose, which was to fill up some links in the pedigree chains of early showyard champions. They talked of the horses as belonging to particular parishes, the "Wistanby horse," and the "Cumbernauld horse," and so forth, and could bring to mind when exceptional prices were realised for grass colts at Lanark Fair. "They had no names till they left us," said Mr Muir, and "we lost sight of many of the best of them."

The introduction of the Black Blood by the Lochlyoch Patersons, the story of which we had heard but a few hours previously, naturally enough came up for discussion. The two old gentlemen were quite conversant with the Lochlyoch narrative, but did not sympathetically espouse the suggestion that the Clydesdale owed its reputation entirely to this, the general impression left on the mind of the writer at any rate being that Clydesdale horses had earned a distinctive reputation long before foreign blood had ever been introduced into the valley.

This, it may be said, was entirely in accordance with the Lanark Fair memories of old John Stevenson of Rakerfield, as already detailed in our Ayrshire notes, when he was assisting Fulton of Sproulston in making his usual purchases. The two old gentlemen had good recollection of hearing the so-called ideas of improvement discussed. It seems possible to think that the Upper Ward was a little bit too conservative in sticking up for quality and nervous action and temperament. In conversing about the introduction of alien blood, they made it plain that, so far as the Upper Ward was concerned, there was no great sympathy for bringing in anything over the breed-

ing of which hovered a doubt, their motto being "better the guid kenned than the bad unkenned." Hardiness was a predominant feature in the Clydesdales of their early days, and there was no great rush for size amongst the western buyers. The Lothian men had, however, been pushing out in this latter direction, and had given considerable encouragement to Bakewell and his English, Black Horse, and Flemish crosses, as we have seen. The colts by the latter were made much use of in the Lower Clyde valley; and it is possibly owing to the fact that the men round the base of Mount Tinto determined to stand by their old sorts, that the ancient town of Lanark ceased to be the centre of the great Scottish agricultural horse-breeding industry.

Neither Mr Muir nor Mr Weir could recollect seeing the early Bakewell introductions into Scotland, though they could talk freely from hearsay as to the Black Horse period and the then existent jealousies.

Sir Wm. Stirling Maxwell.

The late Sir William Stirling Maxwell, Bart., and his factor, Mr Young of Keir Mains, may very well be taken together in writing any chapter of Clydesdale history, so far as the Keir stud was concerned. In its very early days, 1775, Keir, when the property of Mr Charles Stirling, was identifiable with the bleaching of all forms of Dunfermline damask linen, a business in which large fortunes were then made. The place seems, however, to have been very early associated with stock-breeding, but it was not till 1850 that Mr William Stirling of Keir began to compete for showyard honours with Shorthorns and Clydesdale horses. In 1852 a stallion was purchased from Samuel Clark, viz., Clyde (156), and which had won first prize as a three-year-old at the Highland and Agricultural Society's Show at Glasgow in 1850. After some minor successes Mr Stirling gained some outstanding victories, notably in 1859 at Perth in the Four Counties Show, with the mare Keir Sally, the two-year-old Molly, and Forth, the stud horse, the latter by Clyde above mentioned. Forth won third prize at Battersea Royal in 1862, where the stud was to the fore in the mare class with Nancy.

Sir William Stirling, who succeeded to the baronetcy in 1865, and assumed the name of Maxwell, though he got together a grand stud of mares and won many prizes, could not be said to have gained much success as a breeder until he got hold of Peggy, by Samson, otherwise Logan's Twin, and with which he won first in the brood mare class at the Highland and Agricultural Society's meeting at Stirling, and the Gold Medal at Glasgow the following year. "I

was so pleased with the success of Peggy and the good stock by Samson that I saw when out judging, more particularly on our Cadder estate, that in 1869 I brought him to Keir as stud horse," said Mr Young to the writer afterwards when discussing Darnley's pedigree. Here it may be necessary to remark that though it is now stated that Mr Young, within the Glasgow Stallion Showyard, Glasgow, declared to the Doune hiring deputation that if they chose Moffat's Conqueror (Darnley's sire) he would give him the best mare at Keir, the fact remains that she would not breed to the then Keir stud horse. Mr Young distinctly stated this to the writer when he visited Keir for the purpose of writing an article on the stud, and he subsequently made the same statement to the Editing Committee of the Clydesdale Horse Society when the retrospective volume of the Clydesdale Stud Book was under revision. There were many first-class prize mares at Keir, and Peggy, with all her honours, did not earn her title to be *the best* till mated with Conqueror. None of her progeny were anything like so successful as Darnley, and it will be through Darnley's descendants that her historic reputation will always be owing.

Though deferring to Mr Young in everything connected with the stud, Sir William was an excellent judge. He was the first Vice-President of the Clydesdale Horse Society, but only attended one meeting, the first held under the fully constituted Council in the Society's temporary offices, 89 West Regent Street, Glasgow, use of which was kindly granted by Mr Hendrie of Kirkwood, treasurer, Lord Dunmore being in the chair. He died suddenly at Venice a short time afterwards, to the great regret of all Scottish agriculturists as well as of the literary world.

Merryton—"Prince of Wales" and "Mary."

Previous to the first auction sale in May 1875 we visited Merryton by appointment with Mr Drew. This was shortly after we had gone over the Knockdon stud of Mr James Nicol Fleming, where was still to the fore, though getting worn out and not fully equal to the full round of farm work, Darling, the dam of Prince of Wales. Acting on a suggestion we threw out at the time, Mr Craig, some time after, with the consent of Mr Fleming, sent her through to Merryton, where she might prove a breeder's object-lesson when seen in company with her distinguished son. At Merryton she ended her days pulling about meat-coolers, her legs remaining fresh to the last. As is well known, Prince of Wales got his straightness of hocks, about which there was so much cavil, from his dam, who inherited it

from some ancestor on the dam's side, as General, his sire, like Sir Walter Scott, the grandsire, and Samson, her sire, had nice, well-bent, well-set hind legs.

The big full-sized, gold-and-brown effigy of Prince of Wales, painted on wood, had not yet surmounted the archway which led into the courtyard behind the dwelling-house, and there was nothing particularly remarkable about the place save the large, substantially built and commodious stable, generally alluded to as "the Long Stable." Here were generally stalled all the best mares, the numerous prize tickets above their heads readily enough betokening the champions. On the occasion of our visit the stud comprised thirty-five mares and fillies, three years old and upwards, with a number of younger colts and fillies in the adjoining outhouses. Mr Drew had not at that time gone very extensively into the system of crossing Shires with Prince of Wales, and there were many mares like Hawkie, Old Loudon Maggie, and Young Loudon Maggie, her daughter, subsequently knocked down to our own bid of 335 guineas at the sale for Mr J. Stewart Hodgson, Haslemere, Surrey. She was in foal to her own sire, Prince of Wales, at the time, and there was a buzz of comment at the ring-side when this little fact was mentioned. Mr Drew, always afterwards down on the Clydesdales for being "far too sib," was certainly not against in-breeding at that time. His best brood mare then was the big chestnut Mary, the dam of Lord Harry by Prince of Wales, which had the previous week won the first prize for yearling colts at the Glasgow Show. This mare had undoubted Shire characteristics, but of her breeding nothing was known. It was the statement that the first prize two-year-old colt at Aberdeen (King of the Princes) was out of a *full sister* which led to the fierce correspondence that ultimately culminated in the formation of the Clydesdale Horse Society, already alluded to, and the publication of the Clydesdale Stud Book. As some little extra interest attaches to Mary on that account, we shall give our remarks as made in our article written at the time from notes taken in the presence of Mr Drew and the mare herself.

"The first on the list is Mary, the big chestnut mare which took first prizes this year at Ayr and Glasgow in the brood mare classes. She is undoubtedly an exceedingly well and proportionately made animal of great substance and strength of bone, points which she combines with well-sloped pasterns and uncommonly good feet. When recently exhibited she was in very high show condition, and many were suspicious of her fine appearance; but her strong supports are only seen to advantage under a heavy top. If she lacks anything that an animal of her kind wants it is a little more fulness of hip under the hock, for though not so bad as Mr Hardie's filly is

in that way, her quarters perceptibly round in a little too much. Some people are of opinion that she is not a true Clydesdale, and certainly her fore shapes are not quite those of the home-bred, but if her strain is not clear it is an improvement and will be worth working upon. She was originally purchased as a yearling in Dumfries market, but unfortunately her pedigree was unknown. Mr Drew, however, did not get her till a three-year-old, when she was with foal."

Except to say that though her pasterns were well set they were short, and to explain that Mr Hardie's filly was Ranee, the property of the late Mr Hardie of Bo'ness, Linlithgow, a very popular showyard winner, there is nothing to add to the above thirty years afterwards. The colt foal was sold to go to America, and nothing is known of its subsequent history. It most likely was sired by a Shire horse. Drew did not concern himself much about it, his great idea being to get a foal from Mary to the Prince of Wales. This, however, did not prove so easy as it would look on paper, for the famous son of General resented with much temper all efforts towards an alliance, and it was only after a desperate stratagem that the horse and mare were actually mated. The famous colt the Lord Harry, the Glasgow winner alluded to, was the result. Though subsequently a disappointment at stud, he was one of the most noted colts ever seen in an agricultural showyard, though always run hard by another Prince of Wales colt, Prince George Frederick of the Auchendennan stud of Mr John M. Martin (who bred him), and latterly the property of old Sandy Weir of Newhouse Mill.

In discussing the breeding of draught horses generally in the well-known old back-parlour so familiar to the many from all parts of the world who visited Merryton, conversation turned on what the horse could give to the progeny, also the relative contribution of the dam. The suggestion being made to see the champion family group, Mr Drew immediately gave his orders accordingly, and we adjourned to that portion of the stackyard which afterwards became the sale-ring or avenue (the first sale was in the old farmyard). Of what took place we may here quote from the article alluded to as follows:—

"I had an opportunity of looking at the horse (the Prince of Wales) the other day when he was drawn up alongside of the big chestnut mare and their produce, the big chestnut colt which was placed first at Glasgow. A more valuable trio I never saw before. The Prince was looking as well as ever, his grand contour round and sound, well tapered feet and pasterns, and characteristic head at once captivating the eye. His hocks are certainly straight, but his thighs are unusually powerful. The fulness above the hock joints on the insides was visible, but a well-skilled veterinary surgeon who has a great knowledge of the breed at once declared it to be muscle, and, as such, a point to be reckoned in the

horse's favour. Nor is his action a whit less free than it used to be, for he steps out before like a trotting stallion, and standing from behind you can see the soles of his feet clearly every time he lifts."

The Prince of Wales was but nine years old at the time we wrote the above, and could make a really grand show of himself; indeed, no draught horse we have ever looked at, before or since, ever carried himself better, such grand spring and gaiety at the trot, and such steady, well-paced, extensive, regular, and evenly action at the walk. He was a bit tempery, and it was risky for a stranger to go into his box, more particularly when feeding. Though he lived to a good old age as Clydesdale horses go, he gave more than his share of concern in ill turns from the outset. He was Darling's first foal, and when it was seen at Drumburle that she was going to have a difficulty, Willie Greenlees of Campbelltown, then a page-boy to Mr Fleming at Kilkerran House, was quickly flung on a horse's back and despatched to Maybole for Charles Tennant, the local veterinary surgeon. Mare and foal in the end did well, and the latter's career after weaning was, if the Rantin' Robin defeat at the Dumfries Highland and Agricultural Society's meeting be left out, one of continued success. One market afternoon in His Lordship's Larder, Glasgow, when he was four years old, he was on sale to an Australian gentleman and the bargain was very nearly struck. Mr Drew's elder brother Robert, new home from Australia, after a short conversation with the tenant of Merryton as regards the horse's merits, chimed in, and the result was that at £1500 (there would, of course, be a luck-penny) the horse remained in the old country to the great benefit of the breed.

Lawrence Drew died in March 1884, never having been seen at any agricultural gathering after the Glasgow Clydesdale Show, a fortnight previous to his decease. His funeral was largely attended, for though many did not fall in with his opinions, all recognised his worth and his pioneer enterprise in a good cause. The dispersal sale, so different from the initial one of nine years previously, drew breeders from all parts of Scotland and England. Again was his old stud horse Prince of Wales put into the market, and at £900 (a long price for a horse of 22 years old, which had descendants in nearly every Scottish parish and every corner of our Colonies) he found his way back into the hands of his owner when a colt, Mr Riddell of Blackhall. So long reserved for Shire mares, he proved a great and most welcome boon to all those who had mares and fillies by Darnley, and in his later years achieved as much success as he did in the younger days of his career when standing at the almost prohibitive price of £40 per mare. The old horse dropped down dead in his stall on 31st December 1888, literally going out with the expiring year.

Royal Visit to Merryton.

A historic event in Clydesdale, and indeed in draught-horse breeding generally, was the visit of his present Majesty when Prince of Wales to Merryton in January 1878. His Majesty, with the late Crown Prince of Austria (who was not at Merryton, however) and the unfortunate Prince Imperial and a number of distinguished parties, were shooting-guests of the Duke of Hamilton at Hamilton Palace. Though there was no stage rehearsal, Mr Drew got through his parade in a fashion which would have done credit to an Astley or a Hengler, and some Continental circus-like character was lent to the display by the appearance of the young "lassie grooms" in short gowns and petticoats leading the various colts and fillies. It had been Mr Drew's idea for some time previous to this that in washing feet and pasterns and preparing somewhat refractory young colts for shows the feminine hand and touch was found to be more tender than the masculine, and that being also less harshly spoken to the young stock were less nervous. With a large amount of young stock to handle and not too many young male servants about the place there may have been something in this, and it was marvellous how tractable were the colts and fillies so groomed and handled. A dramatic incident was given to the parade through the Prince Imperial jumping on the back of Lord Harry and riding him round the yard. "Anybody ever been on his back, Mr Drew?" was the Prince's query as the horse frisked and gambolled about, showing a good deal of spirit. "No one to my knowledge, your Royal Highness." This question to a draught-horse breeder was naturally quite unexpected. The next minute the Prince was on the horse's back, considerably to the astonishment of the company and the owner, who, speaking afterwards of the incident, said, "I was really glad to see him off, and to think what a guid thing it was Lord Harry and not the Auld Prince himself." His Majesty, in congratulating Mr Drew on the appearance of his stud, said, "They are a grand lot of mares, Mr Drew, but mostly Shires." "All the better of that, your Royal Highness," was the quick response. He afterwards presented to the Prince a filly by Prince of Wales which was good enough to win the Clydesdale Horse Society's cup at the Royal at Kilburn in 1879. In the autumn of 1878 he sent seven of the best mares of his stud to Paris in reciprocation of the honour conferred by the visit. To get them across the Channel and home occasioned him much anxiety. The Merryton trophies and Paris gold medals were all scattered by auction during the Glasgow Highland and Agricultural Show week of 1897.

Messrs Montgomery.

Though the Messrs Andrew and William Montgomery of Netherhall are young in comparison with the Clarks, Crawfords, and a few others who commenced their histories with the pioneer shows of the Highland and Agricultural Society, the senior member has been long enough at the business to have reached the veteran stage; and the firm, individually and as partners, have during the past forty years carried out more transactions, home and foreign, in Clydesdales than the aggregate of all Clydesdale dealing during the previous forty. Sons of the late Mr Hugh Montgomery of Banks, Kirkcudbright, they were bred and reared in a corner of East Galloway to which the late Mr Muir of Lochfergus had transferred his Lanarkshire Upper Ward sympathies. Having leased Boreland farm, on the Balmaghie estate, Mr Andrew Montgomery made his first start in the Clydesdale line with two stallions of more than passing merit, Farmer (288) and Pride of Galloway (601). Very early his knowledge of draught horses was recognised in the south as in the north, and in 1877 he officiated at the Bristol "Royal" in a mixed ring of Clydesdales and Shires, stud books and special showyard classing having still to make their appearance. Differing with the other two judges—both southern men—as to the relative merits of the mares, he said he would allow them their way if their particular fancy would pass the veterinary surgeon. This was agreed to, and the result was that Mr Drew's famous Mary Gray, by Topsman, which Mr Montgomery championed, was placed at the top. Since that time Shire breeders have attached greater importance to the necessity of having horses without side-bones. In 1878, when our present Majesty King Edward VII. was Chief Live-Stock Commissioner at the Paris Exhibition, Mr Montgomery acted as a judge of draught horses, no doubt holding out strongly for the seven select mares from Merryton, without which Britain would have been, so far as the draught horse section is concerned, quite unrepresented.

A strict believer in the Darnley and Prince of Wales type of horses, Mr Montgomery purchased his noted stallion Macgregor, sired by the former, from Mr Craig, Flashwood, Dalry, Ayrshire, in 1877 when a yearling, and since then has known little but success. Having purchased Netherhall estate, near to Castle-Douglas, and erected on it a beautiful mansion, by way of a house-warming he was presented with oil-painted portraits of himself and Mrs Montgomery, the late Mr Wellwood Maxwell of Munches presiding over a large and representative company, which included such noted agriculturists as Sir Mark J. Stewart, M.P., Sir Jacob Wilson, Mr

Pole Gell, and Mr Andrew Mitchell of Alloa. Mr William Montgomery, who joined his brother in 1885, bought the now famous Baron's Pride when rising four years from Mr John Findlay, of Springhill, Baillieston, Glasgow, he then being first in the aged and champion classes at the Highland and Agricultural Society's Show at Aberdeen. Messrs Montgomery have largely fixed the modern type of Clydesdale—i.e., flat bones, well-set pasterns, and sound, ample hoofs. They also may largely claim to have elevated Clydesdale breeding generally to a platform erstwhile represented by the Shorthorn cattle world. Since their advent foreign and colonial business in British draught horses, betwixt quotations of shipping freights and rates of insurance, has attained an aspect hitherto associated with maritime commerce. Some of the consignments, such as that to Cape Town, South Africa, in which a special train to Liverpool docks had to be employed, were quite of international importance.

Our article having been outlined for reminiscences of the men of the past, there is small room for mention of the still surviving veterans, the head and front of whom is Mr David Riddell, Blackhall, who, as the Germans say, has stood the *sturm und drang* of close upon sixty years of it. There are a great many like Mr William Taylor, Park Mains; Mr William Renwick; Mr Brydon, Seaham, and others, who seem destined to keep the business going; but the majority of the very old school have fallen out.

CHRONOLOGICAL ARRANGEMENT OF THE LEADING EVENTS IN SCOTTISH HORSE-BREEDING.

PERIODS	I. PRE-HISTORIC.	NOTES UPON INFLUENCES
	In his article on "The Multiple Origin of Horses and Ponies," Vol. XVI. (Fifth Series), 'Highland and Agricultural Transactions,' Professor Cossar Ewart declares his opinion that the Norse ponies played an exceedingly active part in the formation of what is now known as the Highland <i>garron</i> ; also that the Norse race had much to do with founding the type and character of the small active Clydesdales which made their reputations as farm horses a century and a half ago. The yellow dun Norse horse of Rosshire, he thinks, was particularly strong in this direction. There were, however, numerous introductions of Celtic and other blood, so that, so far as concerns modern horse-breeding in Scotland, conjectural details may here be left out.	Norse and Celtic blood the foundation of Highland ponies and Lowland horses—Galloways and Clydesdales.
1150-1200	<p data-bbox="396 1441 539 1464">II. HISTORIC.</p> <p>Alexander the First introduces first Arab horse into Scotland. Spanish horses used at battle of Largs</p>	Eastern blood affects the studs of Scottish Royalty and nobility.

CHRONOLOGICAL ARRANGEMENT—*continued.*

PERIODS.	II. HISTORIC— <i>continued.</i>	NOTES UPON INFLUENCES.
1214	William the Lion of Scotland enacts that every burghess and man of property must keep at least one horse. Establishment of racing for Silver Bells at Lanark.	... Increased speed found desirable.
1284	All burghesses under local bye-laws compelled to keep a horse.	Compulsory keeping of horses by persons of means.
1814	Large numbers of heavy horses captured from the English at Bannockburn.	Heavy horses of the English army captured.
1840	Ambassadors from Scotland travel to England with 200 horsed attendants.	Influence upon horse-breeding as affected by large horsed parties travelling to and from Scotland and England.
1842	David Bruce travelled into England with 40 attendants, and his Queen with 60 attendants on horseback.	
1859	Thomas Murray, Lord Bothwell, granted leave to bring horses into Scotland from England for sale.	
1861	Earl of Mar granted passport to take into England a full-bred war-horse and two small-sized horses.	Influence of old war-horses in Scottish horse-breeding.
1868	The Earl of Mar travelled with 30 horsed attendants.	...
	William, Earl of Douglas, in Lanark with 10 large horses (<i>magnoes equos</i>).	...
1869	David I. imposed by statute penalty of one-sixth value of every horse carried out of Scotland.	...
1873	Alexander Lealey travelled with 70 horsed attendants.	...
1424	James I. encourages trading in horses between England and Scotland, and allows horses three years old and upwards to be exported for use.	...
1585	James V. passes a law for raising the size of the native Scottish breeds.	Statute passed enjoining raising of size of Scottish breeds.
1567	Total prohibition by statute of export of horses from Scotland.	...
	James IV. sends his royal stud grooms into Spain; they bring back twelve choice horses and mares.	Intercourse in horse-breeding between France, Spain, and Scotland.
	Louis XII. of France sends James IV. in return a present of four amblers.	
III. MODERN OR AGRICULTURAL PERIOD.		
1721, May 21	Sale by roup at Miln of Alva, Stirlingshire, of five bay stallions, one large black stallion, four large-sized black English mares with foals at foot, with several colts and fillies two and three years old, &c. (see page 221).	Early experimental improvements with black horses carried out near Stirling.
1733	Black horses introduced into Scotland by Patersons of Lochlyoch, Lanarkshire.	...
1757	Edinburgh Society's prize for best draught stallion awarded to William Duncan, stabler in Edinburgh.	...
1758	Edinburgh Society's prize awarded to Alex. Stewart for a bay draught stallion.	...
1759	William Whyte, Raws, Polmont, wins prize for a bay stallion, Red Robin.	...
1761	Robert Mason, Blythwood, Dunse, wins prize for best draught stallion with Plowman.	A famous Dunse-bred horse wins the stallion premium of Edinburgh Society three times running.
1762	Robert Mason, Blythwood, Dunse, wins prize for best draught stallion with Plowman.	
1763	Robert Mason (his son Alexander), Blythwood, Dunse, wins prize for best draught stallion with Plowman.	

CHRONOLOGICAL ARRANGEMENT—*continued*.

PERIODS.	III. MODERN or AGRICULTURAL PERIOD— <i>continued</i> .	NOTES UPON INFLUENCES.
1779	Black horses introduced by the Duke of Buccleuch (see page 221).	The black horse wave spreads over Scotland.
1784	Highland and Agricultural Society founded.	...
1785	A famous horse, Blaze, belonging to Mr Scott, Brownhill, Lanarkshire, wins a premium at Show held in Edinburgh Grassmarket.	...
1790	Black horses belonging to Bakewell of Dishley stationed at Linlithgow and Grassmarket, Edinburgh.	...
1793	Flanders horse, Vandernoot, introduced by Colonel Fullarton of Fullarton into Ayrshire (see page 228).	Ayrshire and the red bay Flanders influence.
1808	Shotts Hill Mill sale. The Lampits stud founded by purchase thereof of two-year-old filly.	...
1820	Sir Charles Lockhart sends two stallions from his Lee estates in Lanarkshire to his Largie estates in Kintyre to found the modern Kintyre breed.	Clydesdale horse influences Kintyre.
1823	Broomfield Champion (Frame's) foaled (1820 or about). Highland and Agricultural Society gives premiums for Clydesdales and Cleveland bay mares, to encourage horse-breeding in Perthshire.	...
1826	First Show of draught horses held by Highland and Agricultural Society at Glasgow; first prize won by Sovereign (811), Mr John Brown's, Kirkmuir.	Highland and Agricultural Society's first show of draught horses.
1833	Sir John Dalrymple Hay of Dunragit does much for the breeding of Clydesdales.	...
1837-38	Mr Anderson of Dunmore visits Lanarkshire and takes away two mares and a stallion to found the Victor and Lochfergus strains.	The Wigtownshire Clydesdale family formed.
1862	J. Nicol Fleming leases Kilkerran, Maybole, Ayrshire, and the Home Farm of Drumburle.	...
1865	Mr Stirling of Keir succeeds to baronetcy, and becomes Sir W. Stirling Maxwell.	...
1866	The famous Merryton sire Prince of Wales foaled at Drumburle, Maybole, Ayrshire.	Birth of the famous Clydesdale stallion Prince of Wales.
1866, Nov. 7	Dispersal sale of the late Duke of Hamilton's stud at Merryton. Mr Drew buys in best four-year-old mare for £220.	...
1869, Feb. 12	Samson (74), Logan's Twin, becomes Keir stud horse.	...
1871-78	The Glasgow Agricultural Society begins to increase its premiums and service fees from £40 and £1, 5s. per mare, to £150 in 1874, with £2 for service and £2 for foal, and to encourage horse-hiring clubs from all parts of Scotland to choose their horses at Glasgow.	Establishment and development of the Clydesdale Annual Stallion Show at Glasgow.
1875, May 20	Mr Drew's first Merryton sale	The sales period and the establishment of pedigree registration.
1877, Feb.	Meeting held at Glasgow under presidency of Lord Dunmore for the establishment of Clydesdale Horse Society.	Notable sales and deaths of notable owners and breeders.
1877	Samuel Clark of Manswraes, a noted stallion owner and figure in Clydesdale horse history, died.	...
1877, April 10	Merryton sale. Netty sold into Keir stud for 596 gs.	...
1878, Nov.	Sir William Stirling Maxwell, Baronet, founder and proprietor of Keir stud, first Vice-President Clydesdale Horse Society, died.	...
1879	Dunmore Shorthorn and Clydesdale sale, Rosebud, dam of Moss Rose, sold for £190; Auchendennan sale following day, Damsel, Champion of the Highland and Agricultural Society, sold to go to Australia for 490 guineas.	...

CHRONOLOGICAL ARRANGEMENT—*continued*.

PERIODS.	III. MODERN or AGRICULTURAL PERIOD— <i>continued</i> .	NOTES UPON INFLUENCES.
1879	Robert Brewster, owner of Pride of Scotland and other famous stallions, died.	
1879, Jan	His Majesty, King Edward VII., as Prince of Wales, visits the Merryton stud.	Royalty honours the Merryton stud.
1879, Nov.	At meeting at Chicago resolution passed to found an American Clydesdale Stud Book for United States and Canada.	
1880, Feb. 11	Sale of Mr Crowther's horses, Mirfield, Yorkshire. Messrs Johnstone, Lochburn, and Galbraith, Croy, Cunningham, bring back Topsman to Scotland at 300 gs.	
1880, Feb.	Sale of remainder of Lord Dunmore's stud. Flora M'Donald sold for 310 gs.	
1880, Dec.	Retrospective or first volume of Clydesdale Stud Book issued.	
1884, Mar. 8	Death of Lawrence Drew.	
1884, April 15	Dispersal sale of Auchendennan stud. Bride of Lammormoor sold for £320; Edith Plantagenet for £320.	
1884, April 17	Dispersal of Merryton stud. Mr Riddell purchases Prince of Wales (673) for 900 gs.	
1884, July	Darnley wins Highland and Agricultural Jubilee Championship.	
1887, Feb. 15	Duncan Macfarlane, Torr, Helensburgh, noted breeder and judge of Clydesdale horses, died.	
1888, Oct. 6	William Gray, Muncraig, Bogue, Kirkcudbrightshire, noted breeder and judge, died.	
1888, Dec. 31	Death of Prince of Wales (673).	
1891, Nov.	William Findlay, Brackenbrae, Clydesdale breeder and judge, died.	
1891, Dec. 19	Peter Crawford of Dumgoyack, Strathblane, noted as an owner of Clydesdale stallions, died.	
1896, April 24	Dispersal sale of Keir stud.	
1899, April	Oliphant Brown, Shiel, New Galloway, noted breeder and judge, died.	
1901	Lord Lionel Cecil, Orchardmains stud, died.	
1902	Alexander Young of Keir Mains, factor to Sir W. Stirling Maxwell, noted breeder and judge, died.	
1903	Death of Sir Michael Shaw Stewart, Baronet.	

THE CEREAL AND OTHER CROPS OF SCOTLAND
FOR 1906, AND METEOROLOGY OF THE YEAR
RELATIVE THERETO.

THE CROPS.

THE following comparison of the cereal and other crops of 1906 with those of the previous year has been prepared by the Secretary of the Society from answers to queries sent to leading agriculturists in different parts of the country.

The queries issued by the Secretary were in the following terms:—

1. What was the quantity, per imperial acre, and quality of grain and straw, as compared with last year, of the following crops? The quantity of each crop to be stated in bushels. What quantity of seed is generally sown per acre?—(1) Wheat, (2) Barley, (3) Oats.
2. Did the harvest begin at the usual time, or did it begin before or after the usual time? and if so, how long?
3. What was the quantity, per imperial acre, and quality of the hay crop, as compared with last year, both as regards ryegrass and clover respectively? The quantity to be stated in tons and cwts.
4. Was the meadow-hay crop more or less productive than last year?
5. What was the yield of the potato crop, per imperial acre, as compared with last year? The quantity to be stated in tons and cwts. Was there any disease? and if so, to what extent, and when did it commence? Were any new varieties planted, and with what result?
6. What was the weight of the turnip crop, per imperial acre, and the quality, as compared with last year? The weight of the turnip crop to be stated in tons and cwts. How did the crop braird? Was more than one sowing required? and why?
7. Were the crops injured by insects? State the kinds of insects. Was the damage greater or less than usual?
8. Were the crops injured by weeds? State the kinds of weeds. Was the damage greater or less than usual?
9. Were the pastures during the season of average growth and quality with last year?
10. How did stock thrive on them?
11. Have cattle and sheep been free from disease?
12. What was the quality of the clip of wool, and was it over or under the average?

From the answers received, the following notes and statistics have been compiled:—

EDINBURGSHIRE. *Wheat*—40 to 44 bushels; straw less than last year; 3½ bushels sown. *Barley*—40 to 44 bushels; quality very good; straw about the same as last year; 3 bushels seed sown. *Oats*—44 to 48 bushels; quality very good; straw fully more than last year; 4 bushels seed sown. *Harvest* three weeks later than last year. *Hay* fully heavier than last year; about 2 tons 10 cwt. to 3 tons per acre, and sold about the same price as last year; heavy second crop, and both well got.

Meadow-hay—Fair crop, but much spoiled with wet weather. *Potatoes*—Light crop; about 6 tons per acre, and a good deal of disease, especially since they were pitted; selling 15s. to 20s. per ton more than last year. *Turnips*—About the same as last year; yellows and swedes about 25 tons per acre. *Mangold*—A good crop; about 30 tons. *Live Stock*—Pastures very good, fully better than last year; both cattle and sheep thrive well, and free from disease. *Clip of wool*—Good.

LINLITHGOWSHIRE. *Wheat*—Seed sown, about 4 bushels per acre; yield per acre about 44 bushels, and 2 tons straw. *Barley*—Seed sown, about 4 bushels; yield per acre, about 36 bushels; straw same as last year. *Oats*—Seed sown, about 4 bushels; yield per acre, 48 bushels; straw if anything less than last year. *Harvest* began about the usual time. *Hay*—The quantity would be about 45 cwt. per acre; quality good. *Potatoes*—Yield less than last year; this year about 7 tons; very little disease. *Turnips*—Crop better than last year; 25 to 30 tons swedes, yellows 25 tons; braided well, and no second sowing. *Live Stock*—Stock did well. *Clip of wool*—Good.

HADDINGTONSHIRE (Upper District). *Barley*—30 bushels; quality of grain and straw not so good as last year; 3 bushels sown. *Oats*—36 to 38 bushels; straw short but of good quality; 4 bushels sown. *Harvest* a little later than last year. *Hay*—2 tons, of good quality. *Meadow-hay* more productive than last year. *Potatoes*—5½ tons; no disease; no new varieties planted. *Turnips*—15 to 18 tons; quality not so good as last year; crop braided well; no resowing. *Live Stock*—Pastures above the average; stock thrive very well. *Clip of wool*—Average clip.

HADDINGTONSHIRE (Lower District). *Wheat*—36 to 44 bushels; good quality; a good bulk of straw, more than average, but yielded disappointingly; seed sown, 3½ to 4 bushels broadcast; 2½ to 3 bushels drilled. *Barley*—30 to 42 bushels; quality under average; bulk of straw nearly average, but crop threshed out wretchedly. The yield per acre of all grain crops is bad, and barley exceptionally so, constituting perhaps a record unprofitable barley crop; low prices per quarter along with the small yield. The excessive rainfall during May, followed by drought later, caused the land to run together and harden, and then the want of sun and continuous rain in August acted prejudicially. Seed sown, 2½ to 3 bushels drilled. *Oats*—36 to 44 bushels; quality good; light bulk of straw; seed sown, 4 to 5 bushels broadcast; 3 to 3½ bushels drilled. *Harvest* began about 20th August, being about average time. There was some wet weather in the first week, after that weather dry, with an absence of winds during the stacking period. *Hay*—A very fine crop, above average; 2½ to 3½ tons; fine quality and well secured. No *meadow-hay* grown. *Potatoes*—“Up-to-Dates” (or kindred varieties), which is now the principal variety grown, 7 to 9 tons; “Langworthys” 5 to 7 tons; yield less than last year by about 2 tons per acre; disease in some districts bad; the blight struck the crop about 10th October; fields which had ripened by then escaped, but those which were green and growing on and increasing in weight then have about one-third diseased in “Date” varieties. Few of the new and boomed varieties grown, they not having fulfilled expectations. *Turnips*—16 to 26 tons; quality good, but not standing much eating; the exceptionally heavy rainfall in the third week of May hurt land very considerably. All the earliest sown turnips fared best; some second sowing required with those made just before the rain. Crops not damaged by insects, except “the fly” on some fields of turnips, but nothing more than usual. Crops not hurt much by weeds, except charlock in a few fields. *Live Stock*—Pastures very good,

considerably better than average, and stock did extra well on the grass. A good grazing year, and stock did extra well. *Clip of wool*—Fair average, with good prices.

BERWICKSHIRE (Merse). *Wheat*—40 bushels; a fair crop of both straw and grain, but rather below last year; quality fair; only grown on favourable situations; seeding, $3\frac{1}{2}$ to 4 bushels. *Barley*—33 bushels; poor crop; straw short and weak; damaged grain very general; considerable areas choked by excessive growth of clover; seeding, 3 bushels. *Oats*—39 bushels; both grain and straw in excess of last year's average; quality much inferior to last year in many places; seeding, 4 to $4\frac{1}{2}$ bushels. *Harvest* about ten days later than last year; not general till middle of August; weather very bad for first fortnight; fine weather all September, but little wind. *Hay*—41 tons; fine quality; generally luxuriant crop and well secured; clover very abundant, except where there had been a failure or partial failure of seeding in 1905; aftermath fair. *Meadow-hay*—A good and luxuriant crop, but much damaged by August rains. *Potatoes*—Very poor; 3 to 5 tons below last year; average crop; about $5\frac{1}{2}$ tons; little disease till August; after that, more prevalent; "Factors," "Table-talk," and "Dalhousies" among new varieties. *Turnips*—Swedes braided well; very little sowing twice; three weeks' rain in May divided the crop into two sections; the early crop has turned out good, and up to 25 or more tons per acre; the later sown crop is small and inferior, not more than 15 to 17 tons. *Live Stock*—Rotation pastures were good in May, June, August, and September; bare in July; stock generally did well. *Clip of wool*—Under average by about $\frac{1}{2}$ lb. per fleece.

BERWICKSHIRE (Lammermoor). *Wheat*—Almost none grown. *Barley*— $30\frac{1}{2}$ bushels; straw and grain both inferior, and choking by excessive growth of clover very general; seeding, 3 bushels. *Oats*—33 bushels; crop generally only fair, though better than last year; quality not up to average; seeding, 4 to 5 bushels. *Harvest* not general till last week of August; September, weather dry and fairly satisfactory. *Hay*— $35\frac{1}{2}$ tons; crop good and well grown, and secured in good condition; aftermath fair. *Meadow-hay*—Good crop, but only secured in middling condition owing to the deluges of rain in August. *Potatoes*—Crop not much more than half of that of last year; probably about $4\frac{1}{2}$ to 5 tons; little disease; tubers an average size; many lifted in wet weather. *Turnips*—Crop generally braided well, and those sown before the May rains are a full crop; those sown later are only a moderate crop; average, say, 19 tons. *Live Stock*—All pastures were good and luxuriant in autumn; stock, both cattle and sheep, grazed well. *Clip of wool*—Under average of about $\frac{1}{2}$ lb. per fleece.

ROXBURGHSHIRE. *Wheat*—Little grown, but what there is grown is a very bulky crop; straw very good, and grain fine quality; it was a favourable autumn for sowing, so the young plant got a good start before the winter weather came on; seed about $3\frac{1}{2}$ bushels. *Barley*—From 20 to 36 bushels; grain of poor quality, being badly ripened, having had a very damp wet June; straw is plentiful, but also poor in quality; seed about 3 bushels. *Oats*—About 40 bushels; grain good and fine quality; straw will be above the average in quantity and quality; seed, from 5 to 6 bushels. *Harvest* a little later than last year on most farms; grain was cut and stacked in fine order, but most farmers had few if any stacks covered when the rain came on, and there has been a great loss by stacks getting wet; in some cases the loss is very great. *Hay*—A large crop and fine quality; a good deal of late hay suffered from the rain. *Meadow-hay*

—A large crop, but a good deal of it spoilt by rain. *Potatoes*—This is perhaps the worst crop that has been for years; most places not half a crop, but luckily potatoes are not much grown for sale in this county. *Turnips*—Crop very variable; those got in before June are a big crop, but rain came on, June being very wet; a great many were put in where the land was in bad order, hence there is a great deal of bad roots, and some very poor crops. *Live Stock*—Pastures excellent growth and quality; stock did very well. *Clip of wool*—Quality very good, and wool weighed very well.

SELKIRKSHIRE. *Barley*—Only a fair crop; about 32 bushels; seed sown, 3½ bushels. *Oats*—Moderate crop, suffered from cold wet May; 30 bushels; both straw and grain good quality; seed sown, 5 bushels. *Harvest* a week later than usual; weather fine but very slow. *Hay*—35 cwt.; quality good; better than last year. *Meadow-hay*—Generally a good crop, but suffered from weather in later districts; about 20 per cent more than last year. *Potatoes*—Average crop; very little disease. *Turnips*—Swedes a good crop; about 20 tons an acre; yellows not half the crop they were last year; a little resowing owing to the bad condition of the land, much of it being wrought under very unfavourable circumstances. Portions of oats injured by grub, and there was a little turnip fly also. No more than the usual injury by weeds, only thistles seemed to be very much increased of late years. *Live Stock*—Pastures were very good, and grass everywhere abundant; stock thrived generally very well indeed. *Clip of wool*—Quality good; only average quantity; about 7½ per cent less than last year.

PEERLESSHIRE. *Barley*—36 bushels, and 35 cwt. straw; about 4 bushels less than last year, and 5 cwt. straw less; 4 bushels sown. *Oats*—32 bushels, and 35 cwt. straw; deficiency same as barley; 5 bushels sown on rough lea, 4½ to 4¾ generally. *Harvest* began usual time, but good; harvest shorter by a week than usual. *Hay*—Timothy 2½ tons; clover 1 ton 16 cwt.; very similar to last year. *Meadow-hay*—Full average crop. *Potatoes*—Crop about 6 tons, or 2 tons less than last year; no disease; very few, if any, new varieties planted. *Turnips*—Swedes 12 tons, or 3 tons less than last year; yellows 10 tons, and in many cases much less; about 5 tons short of an average; first sown turnips braided partially, and a good deal resown; wet weather in May caked the soil, and they could not be braided. A few fly on early braided, but nothing more than usual. *Live Stock*—Pastures full average; stock thrived very well. *Clip of wool*—Wool clip good quality; parks a full average; hill sheep under an average.

DUMFRIESHIRE (Annandale). *Barley*—Weight of grain will equal last year's crop (35 bushels); owing to bright favourable harvest weather, quality was excellent, and the bulk would go for malting purposes; straw under last year, 19 cwt.; seed sown, 3½ bushels. *Oats*—Yield of oats (grain) under last year; contrary to expectation, after good harvest, the crop is threshing badly; from careful inquiry the yield will not exceed 35 bushels; weight of straw would equal last year's; quality of grain, owing to favourable harvest, is better than last year; seed sown, 3½ to 4 bushels drilled; 5 to 6 bushels sown broadcast. *Harvest* began about usual time, beginning of September. *Hay*—Ryegrass hay will correspond with last year's crop both as regards quantity and quality—about 29 cwt. per acre; clover was again almost a failure; causes are increase of wood-pigeons, and probably also the more general use of nitrogenous manures and dung as top-dressing in spring. Farmers say there was no scarcity of clover plants in the autumn, but when crop matured clover had almost

entirely disappeared. *Meadow-hay*—Slightly under last year; 30 cwt. per acre. *Potatoes*—Yield of potatoes rather under last year's crop as regards weight, and very much as regards quality; this year there is a scarcity of good-sized marketable tubers. The crop was very promising in the beginning of the season, but disease made its appearance early in August, which was a very wet month; weight per acre, $5\frac{1}{2}$ tons; no new varieties grown. *Turnips*—Weight of turnip crop 18 tons per acre; crop braided well, but heavy lands were caked and covered by an unusually wet May, and on this class of soils the roots were deficient; no resowing was required. *Live Stock*—Pastures were of more than average growth and quality; stock of all kinds thrived well during the season. Cattle have been free from disease, but foot-rot has been very troublesome amongst sheep, said to have been caused by long grass on pastures. *Clip of wool*—Equal to last year; an average yield.

DUMFRIESSHIRE (Nithsdale). *Oats*—40 bushels; straw 15 cwt.; quantity not so large as last year, owing to red-land crops being short in straw; the harvest-time being in some districts very wet, the colour and quality is inferior of grain; 5 to 6 bushels sown. *Harvest* began about the usual time. *Hay*—Ryegrass hay is principally grown in the county, and would average about 2 tons per acre, being 5 cwt. more than the previous year; quality good. *Meadow-hay*—More productive, the rainy summer suiting its growth, and with the month of August being so wet much of it got remaining uncut longer than usual. *Potatoes*—The quantity was about 2 tons per acre less than last year—5 tons this year, 7 tons last; disease did not prevail to any extent in the county. *Turnips*—This crop would be 5 tons per acre less than last year—15 tons this year, 20 tons year before; quality not so good, as they had too many checks during their growth; early sown braided well later; some had to be sown twice, and were unsatisfactory after that. With the wet season weeds came very strongly, principally redshank and spiny. *Clip of wool*—After the stormy winter and cold spring hill sheep were very lean, which injured the quality of wool, and made the clip under an average in weight.

DUMFRIESSHIRE (Eskdale). *Oats*—Seed-time was splendid, and rarely such a fine seed-bed is obtained; about 5 imperial bushels sown; after braiding very well it got stopped by drought in end of May and beginning of June, but after rain it came away again, and turned out a good crop; straw was about an average in bulk, and of first-rate quality, being very well got; quantity about 40 imperial bushels per acre, and of first-rate quality. *Harvest* began almost exactly the same time as last year. *Hay*—About the same as last year—viz., about 30 cwt. per acre, and exceptionally well got, very little getting any rain at all; more clover than last year. Aftermaths came away fairly well, but but did not stand much eating. *Meadow-hay* was a heavier crop than last year, perhaps because of being late in being cut, as just when meadows were being started the weather broke, and nothing could be done at hay for nearly six weeks; a lot of hay was entirely wasted, but those who stopped cutting when the weather broke got splendid weather to finish with. *Potatoes*—Fairly good quality, but an awful lot of small ones among them; quantity about 5 tons; there was not very much disease, which surprised most farmers, as the shaws died down very early; no new varieties planted. *Turnips* which were sown early made a splendid crop, but most were not sown till late, and did not come away well, and will only yield about 20 tons, as they are mostly very small, with very few exceptions; a lot had to be sown over, caused by the drought. A lot of turnips were injured by the fly which the drought generally causes. Not many weeds, excepting charlock, which was much

the same as last year. *Live Stock*—Pastures rather over an average; growth and quality a long way better, as most pastures were covered with white clover; stock thrive very well; not much disease, the worst being braxy amongst hill hogs, which has been mostly stopped by the "pig dung" dose which is used by almost every hill farmer. *Clip of wool*—Wool would be below the average, both quality and quantity.

KIRKCUDBRIGHTSHIRE. *Wheat*—A growing crop of great promise, well planted, tall straw, and apparently well eared, but on threshing yield is most disappointing, being only 4 quarters (32 bushels); straw, 35 cwt.; 4 bushels sown. *Oats*—Straw under last year's weight; grain good, but yield somewhat under last year; about 45 bushels; 5 bushels sown. *Harvest* began about usual time—third week in August—and was quick, fine weather prevailing throughout. *Hay*—Much heavier crop than last year; abounding in clover; weight, 1 ton 15 cwt. *Meadow-hay*—Weight about same as last year, but great loss in making, very bad weather being experienced at end of July and beginning of August. *Potatoes*—Early potato crops were very heavy, probably a record in any one's experience, reaching as high as 12, 14, and even to 17 tons per acre. Disease set in early in August, and affected any earlies still growing to about 25 per cent of the crop; late varieties an exceedingly small crop. Disease stripped the leaves in August, and stopped growth, but fine weather supervening there was almost no blight on tubers, which were stored in excellent order, and have kept well; yield about 5½ tons per acre; new varieties eschewed. *Turnips*—Weight of crop is 25 per cent under last year; weight, 15 tons; crop braided indifferently, but not much resowing resorted to. Not a weedy year, except charlock, which was again strong in evidence. *Live Stock*—Pastures much better than last year; clover abundant; stock thrive exceedingly well. *Clip of wool*—Considerably under last year.

WIGTOWNSHIRE. *Wheat*—32 bushels; quality good; straw, 22 cwt.; seed, 2½ to 3½ bushels. *Barley*—36 bushels; grain dark in colour; straw light, 16 cwt.; seed sown, 3½ to 4 bushels. *Oats*—42 bushels; good quality; good straw, 21 cwt.; seed sown, 5 bushels. *Harvest* about ten days later than usual. *Hay*—Ryegrass hay a good crop; 38 cwt., but weighing badly in bulk. *Meadow-hay*—Considerably more than last year, but not so well got. *Potatoes*—7½ tons, but keeping badly. *Turnips*—17 tons per acre; more disease than last year; not much resowing required. *Live Stock*—Pastures much more than of average growth and quality; stock thrive fairly well; several cases of anthrax have occurred; otherwise fairly free from disease. *Clip of wool*—Rather under average quantity; quality good.

AYRSHIRE. *Wheat*—43 bushels; grain and straw, average; wheat is not extensively grown; seed, 3 bushels drilled. *Barley*—37 bushels; under average, and medium quality of both grain and straw; seed, 3 bushels drilled. *Oats*—46½ bushels; average grain and straw; seed from 3½ to 6 bushels; varying on account of land, variety sown, and locality. *Harvest* ten days later than usual time. *Hay*—1 ton 16 cwt. 2 qrs.; quality very variable, but generally well got. *Meadow-hay*—Average crop, but mostly of inferior quality on account of bad weather at harvest. *Potatoes*—9 tons; very heavy crop in early districts, 16 tons per acre being got in more than one field; little disease; some new varieties were tested, but none to beat kinds formerly grown. *Turnips*—22 tons; little resowing required; quality fair, but some plots badly diseased with finger-and-toe. *Live Stock*—Stock thrive fairly well. *Clip of wool*—Average in quantity and quality.

BUTE. *Barley*— $3\frac{1}{2}$ bushels sown; well got; average for straw and grain; yield, 37, bushels. *Oats*—5 bushels sown; fairly well got; the ground was very wet when harvest began; on all green crop-land the stocks had to be shifted. *Harvest* began last week in August; after usual time about two weeks. *Hay* was a good crop, and well got, and would average 2 tons per acre. *Meadow-hay*—A good crop, but very badly got; not much grown in Bute. *Potatoes*—The early potatoes, where boxed, about 7 tons per acre; later kinds, 5 tons per acre; no disease; digging early potatoes began 23rd June. *Turnips*—An average crop; braided well; swedes 25 tons per acre, and yellows 20 tons per acre; very little finger-and-toe or any other disease. *Live Stock*—Stock did fairly well. *Clip of wool*—Good quality and fair average.

ARRAN. *Barley*—A moderate crop; about 28 bushels; quality fair, weighing 54 lb. *Oats*—Not so evenly a crop as last year; lea good average; sown-out land very poor, say 28 bushels per acre; seed sown, 6 bushels; harvest eight days later than 1905. *Harvest* began about the average time, taking, say, five years. *Hay*—About 1 ton 3 cwt.; quality good where early cut; late cutting badly damaged with weather; seed dark in colour and less weight per bushel. *Meadow-hay*—More productive, but quality not so good. *Potatoes*—Crop yielded badly; small in size, and a good deal of disease; say not more than 3 tons per acre marketable. *Turnips*—Very variable; dry land a fair crop; damp soils very poor, with a good deal of finger-and-toe; say average 8 tons per acre; more weeds, owing to wet season. *Live Stock*—A big flow of grass; quality not so good as previous year; stock thrived fairly well; very free from disease, with the exception of foot-rot in sheep on damp low lands. *Clip of wool*—Quality fair; about the average in quantity.

LANARKSHIRE (Upper Ward). *Oats*—30 to 35 bushels; similar in quantity, but hardly the quality of last year; seed sown, 5 to 6 bushels. *Harvest* began about the usual time, in the first and second weeks of September, and was early finished, owing to favourable weather. *Hay*—A fair crop, averaging 2 tons; similar to preceding year; little after-math. *Meadow-hay*—A good crop, but not so well got as last year; quantity similar. *Potatoes*—A very moderate crop, averaging probably less than 6 tons, and at least 2 tons per acre less than last year. A good deal of disease, commencing in August, particularly in early varieties. "Suttons," "Up-to-Dates," and "British Queens" are the principal varieties; but "Factors" are being more extensively planted, with good results. *Turnips*—20 to 25 tons; considerably less than last year; quality good; little or no resowing; crop braided well. *Live Stock*—Pastures late in coming, owing to cold weather in May; of average quantity, but deficient in quality; stock thrived well. *Clip of wool*—Quantity and quality average; prices improved.

LANARKSHIRE (Middle Ward). *Wheat*—During the autumn of 1905 a large area of wheat was sown; the crop, however, has given a very poor yield per acre and per bulk in the stack, and the quality is inferior, largely owing to want of sunshine during the later months; from 20 to 40 bushels; straw, 25 to 35 cwt.; seed sown, $3\frac{1}{2}$ to 4 bushels. *Oats* have been a medium crop, and the quality of the grain much inferior to season 1905; 28 to 50 bushels; straw, 30 cwt.; seed sown, $4\frac{1}{2}$ to 5 bushels. *Harvest* commenced about the beginning of September, but the weather conditions were unfavourable generally, and in the later districts much damage to grain and straw was suffered. *Hay*—Rye-grass and clover-hay were very large crops; from $1\frac{1}{2}$ to $2\frac{1}{2}$ tons per acre.

In the earlier districts the crop was well got, but in the later districts much hay was spoiled through continuous wet weather. The crop was selling from the fields for delivery at from £2, 16s. to £3, 5s. per ton. *Meadow-hay*—Meadow and timothy hay gave a yield of from 1½ to 3 tons per acre. *Potatoes*—The season was not favourable for the growth of potatoes, and the average yield would be from 5 to 9 tons per acre. There has been little disease, but the price is a little higher than last year. A few new varieties have been planted, with promise of a fair return. *Turnips* have been a fair crop; yield from 15 to 25 tons. The earlier seeds gave the best results; but no second sowing was required. *Weeds*—Much difficulty was experienced in harvesting the oat crop, owing to the rank growth of clover and the sown-out grasses. The potato and turnip crops were also very difficult to keep clean of the annual and root weeds, owing to the moist season. *Live Stock*—Season 1906 will long be remembered as being the most favourable for pasture for many years; but this applies principally to midsummer and autumn. With the exception of the month of May, stock did well on the pasture. Cattle have been free from disease.

LANARKSHIRE (Lower Ward). *Wheat* was a fairly bulky crop; but the grain very deficient and of poor quality; from 30 to 40 bushels per acre; and 4 bushels seed sown per acre. *Oats*—A fair good crop for bulk, but not threshing well; 35 bushels as an average, and 5 bushels for seed. *Harvest* began about the end of August; a week later than the usual time. *Hay*—Ryegrass a good crop; ryegrass, 2 tons; timothy, 3½ tons. *Potatoes*—Not bulking this year; 6 or 7 tons; a little disease; few new kinds planted. *Turnips*—A fair crop; 20 to 25 tons per acre. *Live Stock*—Pastures an average growth; stock thrived fairly well.

RENFREWSHIRE. *Wheat*—50 bushels; quality quite as good as last year; 4 bushels seed sown. *Oats*—56 bushels; quality of both grain and straw hardly as good as last season. *Harvest* a few days earlier than usual. *Hay*—Average, 2 tons; quality not quite so good as last year. *Potatoes*—Crop not so heavy as last year by, average, 1 ton—making average crop, say, 8 tons; no disease; no new varieties from last year. *Turnips*—Average crop, 23 tons; rather heavier than last year; braided slowly; heard of none resowing. *Live Stock*—Pastures better both in growth and quality than last season; stock thrived better than last season. *Clip of Wool*—Quality good; average as usual.

ARGYLLSHIRE (Lochgilhead). *Oats*—Lea oats better than last year; red land not so heavy in many cases; from 5 to 6 bolls per acre threshed; about 5 bushels sown; straw and grain of good quality. *Harvest* began about usual time; perhaps a few days earlier. *Hay*—Ryegrass not so bulky as last year, but of good quality; about 35 cwt. per acre; no clover-hay grown. *Meadow-hay* not so bulky on this farm, but usually rather heavier than last year. *Potatoes*—About last year's crop; say 6 tons; as a rule were a very poor crop; a little disease among "Abundance"; no new varieties planted. *Turnip* crop not nearly so bulky as last year, but quality average; say about 23 tons; braided all right; no second sowing. *Turnips* very difficult to clean, owing to continued wet; redshank most prevalent weed. *Live Stock*—Pastures quite average growth; stock thrived extra well, unless feeders, as grass was rather soft. *Clip of wool*—The quality of clip was very good, and rather over the average.

ARGYLLSHIRE (Islay, Jura, and Colonsay). *Oats*—A fair average crop, both regarding grain and straw; 5 to 6 bushels when sown by hand;

not more than 4 when drilled in. *Harvest* was about a week later than last year of starting, but, owing to fine dry weather, it was finished earlier than usual. *Hay*—There was a fair average hay crop as regards quantity; and what was cut early and secured without getting rain was of superior quality. On the whole, the quality was above the average, although what was late of being cut suffered considerably from wet weather. *Meadow-hay*—Much the same as last year. *Potatoes*—The potato crop would yield about $\frac{1}{3}$ less than last year of good tubers; disease was worse than usual; commenced in August. *Turnips*—Much the same as last year. In very few cases was a second sowing required; but what was sown early did best. There was the usual crop of weeds; and the damp weather in July and August made it very difficult to eradicate them from among the green crops. Weeds got the upper hand in some fields of turnips and potatoes. *Live Stock*—Stock thrived well. *Clip of wool*—Rather above the average.

DUMBARTONSHIRE. *Wheat*—From 32 to 35 bushels; quality not so good as last year; straw fair in quantity and quality; seed sown, from 3 to 4 bushels. *Oats*—Quality of grain and straw fair; not quite so good as last year; quantity about 48 bushels on the best land to 27 bushels in the Highland district of the county; seed sown, 4 to 5 bushels. *Harvest* was, in most districts, from the usual time to a week later. *Hay*—From $1\frac{1}{2}$ ton to 2 tons; quality very fair. *Meadow-hay*—A better crop than last year, but spoiled by rain in August. *Potatoes*—Report from Cardross parish is—"Early crop very large, from 10 to 14 tons; late crop from 5 to 7 tons; not much disease; no new variety." Report from Old Kilpatrick parish is—"Deficient from 2 to 3 tons from last year; about one-third 'British Queens' showed disease the end of July and beginning of August; yield about 7 tons." *Turnips*—A fair average crop, from 16 to 30 tons per acre; braided well; a very little resowing, owing to fly. In a few isolated cases the crop was spoiled by finger-and-toe; very little damage by insects. Where finger-and-toe existed a great many plants were pulled up by rooks. Some early potatoes not lifted early got bad with annual weeds. A good deal of yare in oats after green crop. *Live Stock*—Pastures in some districts very good; in others deficient in quality, owing to so much rain. Stock did well in most districts. Cattle and sheep very free of disease. *Clip of wool*—Wool considerably under average on the hill farms; about an average on low ground.

STIRLINGSHIRE (Western District). *Oats*—38 bushels; grain and straw poor on lea; red-land straw much shorter and thinner than last year. Bad weather occasioned delay, and told severely against crop being stacked in favourable order. *Harvest* began 1st September, being about ten days later than last year. *Hay*—About 1 ton 12 cwt.; good crop, with rather more clover than last year; not well secured in most cases, owing to unfavourable weather. *Meadow-hay*—An average crop, but badly got under disappointing conditions. *Potatoes*—About 4 tons, or an average of $2\frac{1}{2}$ tons per acre less than last year. Potatoes did not fill for want of sunshine, and quality inferior generally; a little disease set in end of September; no new varieties. *Turnips*—About 20 tons; quality similar to last year; only one sowing; some injury from redshank, and, although not extensive, it was greater than last year. *Live Stock*—Pastures about average. Stock thrived very well. *Clip of wool*—Good; over average.

STIRLINGSHIRE (Eastern District). *Wheat*— $3\frac{1}{2}$ bushels seed; fair bulky crop of straw, but grain did not thresh well; 42 bushels yield poor straw. *Barley*—3 bushels seed produce 26 bushels—most yield per acre that I

have experienced; grain and straw much below par. *Oats*—5 bushels seed produce from 24 to 40 bushels; useless crop of straw and grain. *Harvest* began usual time. *Hay*—Good bulky crop, but did not turn out well; 2 tons yield. *Meadow-hay*—Good crop spoiled by bad weather. *Potatoes*—5 tons per acre; very free of disease; no new kinds grown. *Turnips*—Middling quality; 18 tons per acre; no second sowing. *Live Stock*—Plenty of grass, but poor feeding quality. Stock did not thrive well; cold summer. *Clip of wool*—About an average.

CLACKMANNANSHIRE. *Wheat*—The yield of wheat would be from 34 to 38 bushels; straw, a fair average. There are numerous complaints that wheat is not threshing well, and the quality not quite so good as last year; $3\frac{1}{2}$ to 4 bushels sown. *Barley*—This crop was damaged with wet weather in harvest; the yield is scarcely up to the average; the straw as well as the grain was damaged with rain; it is not so good a crop all over as last year; yield about 30 bushels; seed sown, 4 bushels. *Oats*—Crop varied a good deal, but most of it was considerably under the average; yield, from 28 to 35 bushels; straw soft and of poor quality; it does not seem to have the same nutriment in it as usual. The crop as a whole suffered from want of sunshine to ripen it. Seed sown, from 4 to 5 bushels. *Harvest* commenced ten days later than last year, and was a bad harvest throughout; although there was not much rain there was a great want of drying weather, and harvest dragged on to an unusual length. *Hay*—A fair average crop, but not well secured; owing to wet weather the crop lay out in some instances until it was quite black. The average yield would be about 2 tons. *Meadow-hay*—A short crop, and greatly damaged by rain. It was scarcely possible to get it secured in anything like good order. *Potatoes*—The potato crop is under the average, and not so good in quality as last year; there is also more disease than last year; yield, from 4 to 6 tons. The want of sunshine in the middle of summer was against the potato crop; it left them soft, and they are not keeping well in the pits; even where they were turned over in the pits they are still going bad. New varieties not so much planted as they were. *Turnips*—This crop is in general under the average, although it varies a good deal on different soils. It was after the 1st of August that the bulbs began to swell to any appreciable extent; the bulk is not so good as last year; average yield, from 14 to 18 tons. The crop braided well, little or no second sowing required. Weeds were more troublesome than last year; owing to wet weather the horse-work on the green-crop break could not be carried on to keep down weeds in the usual way. *Live Stock*—Pastures were fairly good, and afforded a good bite for stock all the season, but, owing to excessive moisture, part of the time the grass was soft. Stock did a little better on the grass than last year. *Clip of wool*—There was a good clip of wool, of average quality, and still commanding good prices.

FIFESHIRE (Middle and Eastern). *Wheat*.—A fair average crop, and in some districts as good as last year; yield will be from 40 to 44 bushels; quality of grain good, and straw good length; natural weight 62 to 63 lb.; straw, 2 tons; seed sown broadcast, 4 bushels; with drill machine, 3 bushels. *Barley*—This is a disappointing crop, the cold weather in May having acted much against it; the yield will vary considerably; about 32 bushels will be an average crop; straw, 1 ton, natural weight, 54 to 55 lb.; seed sown broadcast, 3 bushels; with drill machine, 2 bushels. *Oats*—Medium crop, short in the straw, and somewhat thin on the ground; quality and colour of grain good; return, per acre, 40 to 48 bushels; natural weight, 42 to 43 lb.; weight of straw, 1 ton; seed sown

broadcast, 4 to 4½ bushels. *Harvest* was nearly general by the beginning of September, and was favoured generally with good weather. *Hay*—Very fair crop, and secured in good order; quality similar to last year; average return, 1½ to 2 tons per acre. *Potatoes*—A good crop on the best class of land, but under an average on secondary soils; the newer varieties of potatoes, such as "Factor," "Mayfield Blossom," and "Up-to-Date," comparatively free from disease, yielding 6 to 12 tons; fine sample and excellent quality. "Langworthy" again holds the lead for quality, but they are small sample, and crop about 5 tons; spraying was attended with very satisfactory results, both improving crop and quality. *Turnips*—This crop at the beginning of the season presented a very varied appearance; the early sown swedes turning out heavy crops; those later sown, and after the wet weeks in May, looked disappointing for a long time, but improved considerably in September and October months; average crop of 20 tons swedes, and 15 tons yellows; the crop braided very irregularly, and some second sowing was required. Charlock prevalent amongst the grain crops in some districts. *Live Stock*—All pastures generally did fairly well, and where not overstocked with cattle and sheep, supplied good grazing; cattle and sheep free from disease. *Clip of wool*—Very good quality, and over an average.

FIFESHIRE (Western). *Wheat*—On the best lands, 36 bushels of grain and 2 tons of straw; and on the second-class soils, 32 bushels and 1 to 1½ ton of straw; 4 to 5 bushels seed sown, according to locality and condition of the land; grain generally inferior and lacking quality; the wet season and lack of sunshine all told against this crop. *Barley*—On the very best barley soils the return in grain will not exceed 40 bushels, and about 1½ ton straw; whilst on the secondary lands the return is much less and most disappointing, the quality of grain very inferior, and selling at very poor prices. The excessive rains in May killed the barley crop, and it never got over it; about 3 to 4 bushels of seed sown, if by the hand, and less if by machine. *Oats* are likewise a disappointing crop, and yielding badly per acre; and when milled the return is short of expectations; they likewise got sound and set-up during May; the yield will run from 32 to 40 bushels per acre, according to quality of land and climate; the straw, however, is fair quality; a fine early seed-bed, followed by a wet, cold summer, entirely spoilt what at one time promised to be a fine grain crop. *Harvest*—The great heat-wave in the end of August brought on the crops rapidly, and harvest began in consequence sooner than at one time was looked for, starting from the 1st to the 7th September. *Hay*—This crop was unusually bulky, especially in clover, but it is not weighing well; it likewise suffered from excessive rain and lack of sunshine; the tonnage will run from 3 tons to as low as 1½ ton per acre. *Meadow-hay* was likewise bulky, but lacked quality. *Potatoes*—The potato crop is generally a light one, and tons an acre short of the last two years; there was a good deal of disease at lifting time, and this has spread much in the pits since, especially amongst the softer varieties, and no wonder, as all potatoes were pitted in a very wet state. The new varieties are legion, at least so far as names go,—fewer would be a blessing. *Turnips*—Turnips are generally a poor crop, and considerably below average, with a good deal of finger-and-toe; they were late of being sown, as the land was quite unfit for cultivation during the greater part of May, the very season at which they should have been sown. The season was too wet even for runches and skellocks to grow. *Live Stock*—There has been a great wealth of grass everywhere, and stock seemed to do well on it. *Clip of wool*—Quality fair, but quantity under former seasons.

PERTSHIRE (Western District). *Wheat*—Fully an average crop, with a yield of about 34 bushels; straw well grown and of good quality; 3 to 3½ bushels of seed. This crop was well secured before the weather broke. *Barley*—A full average crop, with grain and straw of good quality where crop was secured before broken weather set in. The average yield would be quite 30 bushels; seed sown, 3½ bushels; a rather greater area would be sown than in 1905. *Oats*—An average crop in general, with a yield of 38 to 40 bushels on the stronger land, and 30 to 32 bushels on the higher and poorer land; seed sown, 4 to 4½ bushels; straw of good quality where the crop was secured early. *Harvest* would be generally a week later than in 1905; and while some of the earlier farms did not suffer much, the greater bulk of the crop in the district was secured in bad condition, the weather having become very wet just about the end of the cutting of the crops; on one or two farms stooks and small huts could be seen in the fields so late as November. *Hay*—The hay crop would be barely an average in bulk, though on many farms it might exceed the average; the crop was well got; timothy is extensively grown on the carse land of this district, and the crop would be fully an average in bulk, but on many farms it was not well got, as the weather was very unsettled at the time of making,—weight of hay crop on carse land, 30 cwt., and on dry-field farms, 20 cwt.; timothy hay would yield 36 to 40 cwt. *Meadow-hay* was about the average, but on account of the unsettled weather at the time of making, the crop was in most cases badly got. *Potatoes*—Much under the average; 5 tons would more than represent the average crop of the district—a district which does not grow the heaviest class of crop; usual amount of disease. New varieties are being given up, and most farmers are pinning their faith on such old and tried varieties as “British Queens,” “Up-to-Dates,” “Maincrops,” &c. *Turnips*—The turnip crop was less bulky than in the previous year; the braird on many farms was unsatisfactory, but there was not much second sowing. The weight would not exceed 14 to 18 tons, according to locality, at time of sowing; and during the early part of the season the weather was too wet to ensure a good crop of turnips. Not much injury from insects, but during the autumn many of the crops were affected by a species of fungus or dry-rot, which caused blanks of several acres in a single field. Towards the time for storing the turnips the crops affected became soft and spongy; and while in many cases the shaws remained green, these, as well as the outer skin, came off when an attempt was made to pull them. On most farms there would be more weeds than usual, as the weather was not conducive to their destruction; the weeds were mostly annuals. *Live Stock*—Pastures would be fully better than those of the previous year, and during the late autumn there was a great “flush” of grass on all pastures. Cattle and sheep did fairly well on them; and while the latter left a good margin of profit for their summer keep, the very opposite was the case as regards cattle, even though “stores” were rather cheaper to buy in the spring. Sheep and cattle have been free from disease. *Clip of wool*—Wool clip was of average quality, but it would be under the average in weight on account of the cold backward spring.

PERTSHIRE (Eastern District). *Wheat*—Very good bulky crop, above average; fine quality; average yield, 40 bushels; seed sown, 3 to 4 bushels. *Barley*—Fair crop; under average; irregular in quality; average yield, 34 bushels; seed, 3 to 4 bushels. *Oats*—Light crop, of fine quality, both of grain and straw; average yield, 34 bushels; seed, 4 to 6 bushels. *Harvest* began about usual time, and finished rather earlier. *Hay*—Good average crop, and secured in splendid condition; average yield, 42 cwt. *Potatoes*—Average crop; 7 to 8 tons per acre; very little disease; too

many varieties. *Turnips*—Good sound crop; full average; 20 to 25 tons per acre; good braird, and very little second sowing. *Live Stock*—Pastures above average, especially in the late summer and autumn. Stock thrived very well. *Clip of wool*—Good average.

PERTSHIRE (Central District). *Wheat*—Very little grown, about 30 bushels; quality good; an average crop; $3\frac{1}{2}$ bushels sown; well harvested. *Barley*—About 38 bushels. Quality good as a whole, but some heating in stacks spoilt both grain and straw. About 4 bushels sown. Harvested too quick in some places, and much damaged before got in in others. *Oats*—About 46 bushels. Quality good as a whole, but a good deal was spoilt in the stacks, and badly harvested owing to the close weather. About 4 to 6 bushels sown. Harvested too quick in some places, and much damaged before harvested in others. *Harvest* much about the usual time, and although dry, there was great want of winning weather. *Hay*—About an average crop; about 1 ton 5 cwt. *Meadow-hay*—About an average crop; better than usual where cut late. *Potatoes*—A fair average crop; about 8 tons (dressed); no disease. *Turnips*—A fair good crop on the whole; about 20 tons on the average; crop brairded well; little second sowing. *Live Stock*—Pastures were a fair average growth; perhaps barely so good as the previous year. Stock thrived well. Little or no disease has been reported in this district. There was a pretty serious outbreak of swine fever. *Clip of wool*—Wool was a good average clip.

PERTSHIRE (Highland District). *Barley*—A very unsatisfactory crop both in straw and grain; 32 bushels, and well got in. Small area under barley. *Oats*—After lea up to an average; 42 bushels; but lighter in weight, and colour not good. Sown out land, 30 bushels. Straw of good quality and well got. *Harvest* a fortnight later; general about the 8th September. *Hay* a fair crop, well mixed; average about 25 cwt. per acre, and secured in good condition. *Meadow-hay* a good crop, but much later, owing to wet August, and very badly secured in the glens and outlying districts. *Potatoes* not nearly such a good crop as last year, two-thirds being very small; about 5 tons. No disease to complain of, and well secured. No new varieties planted. *Turnips*—About 15 tons; smaller in size than last year, but quality good; crop brairded well, and kept free of damage by insects, but suffered from frost in the early stages. *Live Stock*—Pastures during the season above the average in growth and quality. The moisture of August and warm weather in September gave great abundance of grass in autumn. Cattle and sheep did well, and took on condition beyond the average of years both on parks and hill ground. Both cattle and sheep were free from disease. *Clip of wool*—Wool both in quality and weight much above the average of years.

FORFARSHIRE (Western District). *Wheat*— $5\frac{1}{2}$ quarters; a real good crop of wheat this year, and quality good as well. Seed, where hand sown, from 3 to 4 bushels. *Barley* has been a disappointing crop, and not of good quality; the pea being very small, it took so many of them to fill a bushel, which made a small yield per acre—about $4\frac{1}{2}$ quarters. Seed, where hand sown, 4 bushels. *Oats* were not so bad, but not so good as last year; about 6 quarters. Seed, where hand sown, from 4 to 5 bushels. *Harvest* about ten days later than last year. *Hay*—Quantity about 1 ton 15 cwt.; quality good. *Potatoes*—Quantity from 6 to 8 tons; much less than last year. No disease worth speaking about. No new varieties. *Turnips*—Weight of turnips from 24 to $32\frac{1}{2}$ tons; quality good, although some were affected with dry-rot, and in some cases a little finger-and-toe.

Crop braided well; not much, if any, second sowing. *Live Stock*—Pastures after May month were fully an average growth, and quality quite equal to last year. Stock thrived very well. *Clip of wool*—The clip of wool was a heavy one, and quality good.

FORFARSHIRE (Eastern District). *Wheat*—40 bushels; 4 to 8 bushels short of last year; quality of grain and straw good. Seed, 4 bushels. *Barley*—40 to 44 bushels; 6 to 8 bushels short of last year. Quality and weight of grain poor, and straw secondary. Seed sown, 3 to 4 bushels. *Oats*—Very variable; heavy soil good, and light soil very poor; yield, 40 to 56 bushels. Straw mostly inferior, but grain fair. Seed sown, 4 to 6 bushels. *Harvest* commenced 28th August, or a week to ten days later than last year. *Hay*—Good hay crop; average, 3 tons 10 cwt., or about 10 cwt. under last year. Plenty of clover. *Potatoes*—About 8 tons, or 2 tons short of last year, but the quality better than for some years, with practically no disease. No new varieties planted to any extent, most farmers having returned almost wholly to "Up-to-Dates." *Turnips*—28 tons; 4 to 5 tons better than last year; braided well; no second sowing; quality best for some years. *Live Stock*—Stock thrived well on grass, both cattle and sheep. *Clip of wool*—An excellent clip, of good quality.

ABERDEENSHIRE (Buchan District). *Barley or Bere* was a fair average crop. Last year the yield was 38 bushels; this year it is about the same. Weight per bushel, 55 to 57 lb.; quality good. Seed sown, $3\frac{1}{2}$ to 4 bushels. *Oats*—Not so much straw as last year, nor the same quantity of grain in general, although there were some very good crops after lea. The early part of the season was too dry to secure a good crop, while the latter was too wet, and the harvest in the later districts was protracted, with the result that the grain is not of so good quality as in earlier districts. Seed sown, $5\frac{1}{2}$ to 7 bushels. *Harvest* begun about ten days later than last year. *Hay*—i.e., ryegrass and clover—secured in very good condition, and is of good quality; reaped 30 to 35 cwt. *Meadow-hay*—Little grown in this district. *Potatoes*—Good yield, and of very good quality. *Turnips*—Not nearly so heavy a crop in general as last year, although they braided well, there being almost no resowing. The long-continued dry weather in the early part of the season, and afterwards too much wet, have not tended towards making a heavy crop. Yield, 15 to 20 tons. *Live Stock*—Pasture was of fairly average growth, and cattle did well during the first part of the season, but not so well later, owing to the wet weather. Cattle and sheep have been free from disease.

ABERDEENSHIRE (Formartine District). *Barley*—Last year 38 bushels, this year 32 bushels, with an average bulk of straw. The bushel weight is extra good—viz., about 56 lb., and the grain, although rather dark in colour, is of fine quality. Seed sown, 4 to $4\frac{1}{2}$ bushels. *Oats*—Last year 44 bushels, this year 40 bushels, with straw 20 per cent short of average. The bushel weight is about 42 lb. Quality of grain and straw only moderate, on account of indifferent harvest weather. Seed sown, 5 to 7 bushels. *Harvest* began about the usual time, and there was a marked deficiency of drying winds throughout; and the weather broke towards the end of it, so that there was a bad finish. *Hay*—Seeds—i.e., ryegrass and clovers—are cut for hay, and yielded about 25 cwt.—about 3 cwt. less than last year; quality very fine. *Potatoes*—Last year 4 tons, this year 6 tons; not much disease; quality only moderate, but much better than last year. Some new varieties planted give heavier crops, usually of inferior quality. *Turnips*—Last year 15 tons, this year 22 tons. The crop braided well, almost no resowing being required. There was very little

damage from insects, but great damage from rooks, wood-pigeons, and small birds; little damage from weeds. *Live Stock*—Pastures were of average growth and quality, and stock throve fairly well on them.

ABERDEENSHIRE (Strathbogie District). *Barley*—Last season there was a considerable area under barley, but while the crop was about an average as far as straw was concerned, the return in grain has been disappointing, and has been at least 6 bushels per acre less than could have been anticipated; it has required a good crop to yield 4 quarters; the bushel weight has been generally about 56 lb. *Oats*—The season having been unusually dry during June and July, the straw of the oat crops has been very short, and fodder is scarce. The crop is not threshing nearly so well as last season, and the return on the whole will be under an average; the weight varies from 41 to 43 lb., the latter being perhaps exceptional. The weather during summer being hot and bright, the *harvest* began about ten days before the usual time. *Hay* did not give a heavy yield; perhaps 25 cwt. per acre may be taken as an average. The crop was generally well mixed with clover. During curing time the weather was unsettled, with heavy rains; difficulty was therefore experienced in saving the crop without damage. *Potatoes* generally were a good crop, and the quality is also good. There was no disease whatever among the tubers. There were no new varieties introduced last season. The varieties which are most popular in Strathbogie are "British Queen," "Maincrop," and "Up-to-Date." *Turnips* have been a good crop; perhaps, on the whole, not so heavy as last year. The braird was perhaps slow during the early part of the season, but latterly the plants grew very rapidly, and there was an entire absence of any trouble from insects or finger-and-toe. *Live Stock*—During the grazing season the pastures grew abundantly, and stock of all kinds did well upon them. Stock of all kinds have been particularly free from disease, and "vets" state that cattle and horses have been unusually healthy during the year. *Clip of wool*—The quality of the wool clip was very good. The winter season of 1905 and 1906 being remarkably open and food abundant, sheep did well, and the clip was improved thereby.

BANFFSHIRE (Lower District). *Barley*—36 bushels of good quality, weighing up to 56 lb. per bushel; 4 bushels of seed; straw of good quality. *Oats*—An average crop of 42 bushels, weighing up to 45 lb. per bushel. Straw more than last year. Seed sown, 5 to 6 bushels. *Harvest* commenced 1st September; short harvest; good weather. *Hay*—A fair crop of excellent quality, of from 150 to 200 stones. *Potatoes*—A fair crop of about 5 tons per acre, of excellent quality; no disease. A few new varieties planted, and did well. *Turnips*—An abundant crop of about 30 to 40 tons, of good quality. Turnips came away well, and no resowing. *Live Stock*—Better crop of grass this year. Cattle did well on grass. Anthrax has been more prevalent than last year, and one or two cases of sheep scab. *Clip of wool*—An average crop, quality good, and sold well.

BANFFSHIRE (Upper District). *Barley*—A disappointing crop, much under an average; yield of grain returns only from 2 quarters to 4 quarters per acre, the latter the exception; weight rather good, up to 57 lb. and over; generally seeded at 4 bushels. *Oats*—A middling crop, only not over bulky in straw, yielding from 3 to 4½ quarters per acre up to 43 lb.; sown with generally from 5 to 7 bushels. Every species of crop was seriously damaged by the storms and floods in the middle of May. *Harvest*—Harvesting general on 3rd and 4th weeks of September, or about the average time of reaping, but was a little interfered with by squally

weather before a correct finish was obtained. *Hay* crop better than last year, but in instances deficient in clovers; cut up from 80 to 150 stones an acre. *Potatoes*—The potato crop had a bad start after the May tempests, and turned out of less bulk; however, of good quality and free from disease; cultivated only for home requirements. "Up-to-Dates," "Sutton's Abundance," and "Fortyfolids" are the most common. *Turnips*—The turnip crop had a most difficult start after the May storms. The soil had to be again wrought over, and the mould was raw and stiff. They braided wonderfully well, and after a little throve very well. They are not up to the sizes of last year, from 20 to 25 tons. Heavy rains early in August prevented a proper use of the horse-hoe amongst turnips in particular, and annuals cropped up a good deal. *Live Stock*—Pastures were slow in starting, and failed rather early; and aftermath was not very general from want of clovers in hay crop. The grazing season being a short one, stock did not come out so much as desired. *Clip of wool*—A fair clip.

MORAYSHIRE. *Wheat*—A fair crop; average, about 38 bushels—6 bushels less than last year. Quality of grain and straw good; about $3\frac{1}{2}$ to 4 bushels seed sown. *Barley*—Average, 33 bushels, being 2 bushels more than last year; quality of grain and straw good; yield of straw much better than last year. Seed sown, about 4 to 5 bushels per acre, and about 3 bushels when drilled in; weight, from 55 to 56 lb. *Oats*—Average yield, 42 bushels, being 6 bushels more than last year; weight, from 42 to 44 lb. per bushel; yield of straw good—better than last year; quality of both oats and straw good; seed sown, from 5 to 6 bushels. *Harvest* began about the usual time, the 1st September, and finished about the 1st October. *Hay*—The quality of clover-hay is first-class, being cured in splendid condition; average crop, 1 ton 15 cwt. per acre, being 7 cwt. more than last year. *Meadow-hay*—A rather better crop than last year, but not much grown in the county. *Potatoes*—About an average crop—6 tons per acre. No new varieties planted worth mentioning. Not much disease to report. *Turnips*—The average weight for the county comes out at about 18 tons, but on some farms well cultivated and carefully singled weights per acre (carefully weighed at the nitrate competitions) came out at 43 and 56 tons for yellows, and from 40 to 48 tons per acre for swedes. Braird well. A great deal of finger-and-toe in many places. *Live Stock*—Pastures were above an average growth and quality. Stock throve very well. Cattle and sheep free from disease, except abortion, which has been very prevalent amongst cattle of all breeds, and has caused great loss in many herds. *Clip of wool*—Good; rather over an average.

NAIRNESHIRE. *Barley*—Quantity and quality about the same as last year—36 bushels. *Oats*—About equal—44 bushels. *Harvest* began about the usual time. *Hay*—Rather better than last year. *Potatoes*—A better crop and much better quality; very little disease. *Turnips*—About equal to last year; braided very well; only once sown. *Live Stock* throve very well.

INVERNESS-SHIRE (Inverness District). *Wheat*—The wheat crop of 1906 was larger in areas, and a heavier yield per acre, than for several years; quantity of seed sown, from $3\frac{1}{2}$ to 4 bushels per acre; yield, from 40 to 50, and in some instances, 54 bushels. *Barley*—The barley crop was disappointing in return as regards quantity, but the quality was a full average and the natural weight, but the colour was disappointing on most farms; 3 to 4 bushels sown; yield, from 30 to 40 bushels. *Oats* were a good

crop both in quantity and quality, and the yield per acre exceeds an average return; the usual quantity sown per acre on good land, 4 bushels, and from 5 to 6 on lighter land; return, from 34 to 50 bushels. *Harvest* began about the usual time, although later than the former year. *Hay*—The quantity of the hay crop was a full average, while the quality was excellent; yield, from $1\frac{1}{2}$ to $2\frac{1}{2}$ tons per acre, according to quality and condition of land. *Potatoes*—The yield of the potato crop was better than 1905, from 9 to 10 tons being quite common; no disease affected them; several new varieties grown, with promising results. *Turnips*—The average yield per acre on well-farmed land would be from 25 to 35 tons; the quality varied; the crop braided all right, and no second sowing. Some of the turnip crop was affected to a considerable extent with finger-and-toe on some lands where worked while damp at time of sowing; while some could be traced to seed being affected with disease. There was a considerable amount of the usual weeds among grain and green crops; "knot-grass" was more prevalent than usual. *Live Stock*—The pasture grass was a full average of growth and quality to former years; stock thrived fairly well. *Clip of wool*—About an average on lowland-fed sheep, but under an average upon the hill sheep.

INVERNESS-SHIRE (Island of Skye). *Oats* were an average crop, but the early sown fields were much lighter in straw than the late sown crop; the keen frosts in April must have affected the seed, as for several mornings in succession the ground was quite frozen. *Harvest* began about the usual time, and the crop was secured in the best of order. *Hay*—Rye-grass was a heavier crop than last year; and the clover, although long in showing through the ryegrass, improved very much the last three weeks before mowing. *Meadow-hay* was exceedingly heavy in this district, and on dry land, owing to the moist summer, was fully double the weight of last year's crop. *Potatoes*—The potato crop was much the same as last year; no new varieties sown. *Turnips*—The turnip crop was not up to the average, and on some farms finger-and-toe showed early in July; the crop braided well, and there was no resowing. *Live Stock*—The pastures were very backward until June, but since then they have been exceedingly good and much above the average. Hill sheep having come through a hard winter and spring, came to the shears in a backward condition; since clipping, stock has done very well on the pastures. Cattle summered much better than last year. *Clip of wool*—The quality was about the average; the wool weighed much lighter than last year.

INVERNESS-SHIRE (Lochaber). *Oats*—Quantity of straw less than last year; yield of grain about 24 bushels; seed generally about 6 bushels. *Harvest* began usual time. *Hay*—Quality good; quantity, about 22 cwt. *Meadow-hay*—Average quantity. *Potatoes*—About $3\frac{1}{2}$ tons; little disease; some "Northern Star" planted; resulted in no great crop. *Turnips*—About 15 tons; braided well; second sowing not required. Usual damage by the common weeds. *Live Stock*—Pastures below average growth from drought. Stock did fairly well. *Clip of wool*—A fairly good clip.

ROSS-SHIRE (Dingwall and Munlochy District). *Barley*—Quality average; quantity barely; quality of straw fully average; quantity, 32 bushels; seed sown, 4 bushels. *Oats*—Quantity and quality of straw quite average; same may be said of grain; yield, about 40 bushels; seed sown, about 5 bushels. *Harvest* began about the usual time; weather broken, but harvest generally was completed in about thirty days. *Hay*—Quality was good; clovers plenty; weight, about 2 tons; was generally

well secured. *Potatoes*—Crop was late, checked by drought in July; many of small size; not much disease; weight, about 8 tons. *Turnips*—Crop braided irregularly, owing to wet and dry weather alternately; no second sowing; finger-and-toe very prevalent; fields were fairly good, others very poor; average in tons one-fourth less than last season. *Live Stock*—Pastures above usual. Stock thrived well. *Clip of wool*—Average.

ROSS-SHIRE (Tain, Cromarty, and Invergordon District). *Wheat*—Good crop and quality; 36 to 38 bushels. *Barley*—Very irregular; great bulk in good land, but did not thresh out well; small bulk on light land; 32 to 34 bushels. *Oats*—Good crop and plenty straw; 46 to 48 bushels. *Harvest* ten days later than average. *Hay*—Lighter; well mixed; 30 to 35 cwt. *Potatoes*—One-third more; almost no disease; 8 tons; very few new varieties grown. *Turnips*—Lighter by 20 per cent; more finger-and-toe; braided well; 16 to 18 tons. A great deal of wild mustard. *Live Stock*—Pastures quite average growth after a very cold May. Stock thrived very well. *Clip of wool*—Much the same on low ground, but 25 per cent lighter on hill farms.

CAITHNESS-SHIRE. *Barley*—Fair crop; straw short; 32 to 36 bushels; from 3½ bushels. *Oats*—Straw short, but well secured; grain not threshing out as was expected; 24 to 36 bushels; from 5 to 6 bushels of seed. *Harvest* began about the usual time in September, and the weather continued favourable for machine-cutting; leading-in was done in good condition, and all was in yard with little break. *Hay* crop benefited by the rains in May; ryegrass and clover flourished, but some rain came at the handling of the crop; aftermath was good; in some instances there would be 1½ to 3 tons. *Meadow-hay*—Much as in former years, but kept growing longer. *Potatoes*—Fair average crop—4 to 6 tons; improving as weather kept good; but affected with disease, perhaps one-fifth or more, when prepared for table; mealy and of good flavour. *Turnips*—Wet May kept the swedes late, but the favourable summer helped, and there will be crops of 20 to 30 tons; the average is very much less; and finger-and-toe showed a good deal, especially in land that was worked wet. Grub did not affect the yield; a caterpillar on the shaws of turnips in latter end of August did some havoc, but not to any serious extent. Coltsfoot is spreading, and thistles are very thick on some spots; skellock holds its own, and spraying is not prevalent. *Live Stock*—Pastures kept growing well into harvest; the early clearing of fields helped stock to get a good bite. Horses, cattle, and sheep did very well on the pasture. Dipping sheep has a good influence; yet there have been deaths from exposure when cold wet nights follow, 2 to 3 per cent being fatal. *Clip of wool* was about an average, and the prices were improving.

ORKNEY. *Barley*—Bare a very poor crop, being about 8 bushels less than last year. A storm about the 18th of May, and another about the 19th of July, blasted all the crops and did much injury, especially to the bere and potatoes; the average yield was about 28 bushels, weighing about 44 lb., being 6 lb. less than last year; seed, 3½ to 4½ bushels. *Oats* were a fair crop; on some fields good, on others poor; straw rather short; the grain is less than last year, and below an average, being about 28 bushels, weighing about 39 lb.; seed, 4 to 6 bushels. *Harvest* began in the last week of September, being fully a week later than last year, which was about the usual time; the crops were secured quickly and in good condition. *Hay*—A good deal of hay was made and secured in good condition; average about 20 cwt., being a little less than last year. *Potatoes*

—A poor crop, with some disease; the storm in July blackened the leaves and checked growth; average about $3\frac{1}{2}$ tons, rather less than last year. *Turnips*—A very good crop; average about 12 tons, being better than last year. After storm in May the weeds and grass sprang up and choked the oats in several fields. *Live Stock*—Pastures were good most of the season; and stock thrive well, and were free from disease. *Clip of wool*—A good average.

SHETLAND. *Bere*—Grain under that of last year; straw about average. *Oats*—Grain and straw both under last year. *Harvest* about two weeks later. *Hay*—About average quantity and quality compared with last year. *Meadow-hay*—About average of last year. *Potatoes*—Better than last year; no disease; no new varieties. *Turnips*—Better than last year; braird fair; one sowing. *Live Stock*—Pastures similar to last year; stock did well. *Clip of wool*—Quality and quantity about average of former years.

THE METEOROLOGY OF 1906.

By ALEXANDER BUCHAN, LL.D., F.R.S.

The following table gives for each month, and for the year, a comparison of the direction and force of the wind, atmospheric pressure, temperature, rainfall, and cloud, as compared with the averages of the fifty years from 1856 to 1905:—

1906.	DIRECTION OF WIND—DAYS.							Calms.	Wind Force, scale 0 to 12.	Mean Pressure in inches.	Mean Tempera- ture, degrees.	Rainfall.		Mean Cloud, scale 0 to 10.	
	N.	N.E.	E.	S.E.	S.	S.W.	W.					N.W.	In inches.		No. of days.
Jan. .	0	-1	0	-1	-2	+1	+3	+1	-1	+0.111	+2.2	+0.61	+4	+0.2	
Feb. .	+1	-1	-2	-1	-1	0	+1	+3	0	-0.234	-2.5	-0.23	+1	-0.3	
March.	+3	0	-2	-1	-2	-1	+1	+2	0	+0.103	-1.0	+0.04	0	0.0	
April .	0	-1	-1	-1	0	0	+2	+1	0	-0.142	-0.3	-0.50	-3	-1.2	
May .	0	0	0	0	0	0	-1	0	+1	-0.139	-2.1	+2.30	+9	+1.5	
June .	+1	+1	0	-1	-1	-1	+1	0	0	-0.2	+0.154	+0.9	-1.13	0.0	
July .	-1	-1	-1	+1	0	+1	+2	-1	0	+0.029	-1.3	-0.44	+1	-0.2	
August	0	0	0	0	0	0	0	0	0	-0.4	+0.011	+1.0	+1.15	+2	+0.4
Sept. .	-1	-1	0	0	0	-1	+2	0	+1	-0.3	+0.232	+1.7	-1.70	-6	-1.4
Oct. .	-1	0	0	+1	+1	+1	-1	-1	0	-0.115	+1.5	+1.37	+6	+0.6	
Nov. .	-1	0	0	0	-1	+1	+1	0	0	-0.063	+3.7	+0.24	+3	+0.7	
Dec. .	+1	-1	-2	-1	-1	-1	+2	+3	0	-0.1	+0.050	-1.1	-0.21	+2	+0.4
Year .	+2	-5	-3	-4	-7	0	+13	+3	+1	-0.2	+0.09	+0.2	+0.27	+2	0.0

JANUARY.—The mean temperature was $39^{\circ}5$, or $2^{\circ}2$ above the normal, the days being $2^{\circ}0$ and the nights $2^{\circ}4$ above their respective averages. In all districts the month was decidedly milder than usual, and this was especially so towards the south. In the north the second and third weeks were rather cold, but in many places, under the influence of the prevailing south-westerly winds, temperature remained almost continuously

above the average. A particularly mild spell prevailed from 26th to 28th, the maximum temperature being $57^{\circ}\cdot5$ at Tillypronie on 27th. Lowest readings occurred nearly everywhere on 22nd, with a minimum of $21^{\circ}\cdot5$ at Lednathie, and sharp ground frosts occurred between 19th and 23rd.

The mean rainfall was 4·45 inches, or 16 per cent above the normal. In the Border counties there was a moderate shortage, and in Banffshire and parts of Aberdeenshire a decided one: indeed, the total of 0·70 inch at Gordon Castle was the smallest for January there since 1871. But across the country generally there was an excess, which was very large in Invernessshire. Fort Augustus had almost twice its average allowance, and there were the following heavy aggregates: 21·71 inches at Glenquoich, 16·19 at Fort William, 15·62 at Glencarron. At Glenquoich rain fell on every day except the 1st, whilst Fort William had falls of more than two inches on 14th, 24th, and 27th.

Moderate gales were frequent, fog rather common, and for midwinter snowfalls of no great importance.

Thunder occurred at various places on 12th, 16th, 17th, and 28th. Sunshine was slightly deficient.

FEBRUARY.—The mean temperature was $35^{\circ}\cdot7$, or $2^{\circ}\cdot5$ below the normal, the days being $1^{\circ}\cdot9$ and the nights $3^{\circ}\cdot1$ below their respective averages. The month was thus much colder than January, the temperature deficiency being well marked in all districts. There was an alternation of short, sharp spells of frost, with very brief milder periods, and, considering the low mean temperature, very low individual readings were somewhat rare. The actual lowest was $10^{\circ}\cdot9$ at Balmoral on 13th—Kingussie, Fort Augustus, and Lednathie reporting readings almost as low on the same date. The maximum was $51^{\circ}\cdot0$ at Balruddery on 1st and at Lairg on 21st.

The mean rainfall was 2·84 inches, or 7 per cent below the normal. In the extreme north this was the wettest month of the year, and almost the wettest month on record, whilst in Edinburgh it was the driest month of 1906. With a large excess of winds from N.W. and N., Stornoway, Wick, and Dunrobin had twice their normal amounts; and the excess, in a diminishing degree, prevailed southwards as far as Fort Augustus and Braemar. Elsewhere there was a shortage of varying amount, and East Lothian had barely one-third of its average rainfall. Towards the south there were some very fine periods, whilst the heaviest general rains were from 7th to 10th, and on 24th and 25th. Glenquoich registered 1·73 inch on 8th, and Dunrobin 1·62 on 25th.

The month was an extremely sunny one, gales were rather

frequent, and at times snow lay to considerable depth in the Highlands, especially about the 9th and near the close of the month.

Thunder at Glasgow on 25th, and lightning at Fort William on 14th and 25th.

MARCH.—The mean temperature was $38^{\circ}6$, or $1^{\circ}0$ below the normal, the days being $0^{\circ}7$ and the nights $1^{\circ}2$ below their respective averages. The defect was in general well marked, but some southern stations were in close agreement with the normal. The month opened with mild weather and light winds from the south-west. The second week was marked by N.W. winds and extreme cold; thereafter, except about 16th and at the very close of the month, low temperatures ruled, with winds from E. and N.E. On the night of 13th, when lowest readings were everywhere recorded, Fort Augustus registered $8^{\circ}6$ in the screen and Crathes $0^{\circ}9$ on grass. The maximum for the month was $58^{\circ}4$ at Paisley on 20th, but as a rule highest readings were noted about 7th, 17th, and 30th.

The mean rainfall was 2.95 inches, or 1 per cent above the normal. Distribution was rather irregular. There were two well-defined areas of excess, one covering most districts north-west of the Grampians, but not extending to Orkney or the Hebrides; the other along a fairly wide belt on either side of a line from the Firth of Forth to Islay. Elsewhere there was a deficiency. Some heavy falls occurred from 1st to 17th, but with dry winds and low temperatures some western places were all but rainless during the last two weeks. The wettest periods were from 6th to 11th, and from 14th to 17th. On 16th Fort William registered close on 3 inches, and Glencarron, Stronvar, and Greenock falls almost as heavy.

There were some very stormy days; a snowstorm was general from 10th to 15th, with floods two or three days later as a consequence of heavy rains and the melting of the snow.

Sunshine was rather variable in amount, but abundant in the west. Thunder occurred in Mid-Lothian on 8th, at Glasgow on 9th, and at Kelso on 18th.

APRIL.—The mean temperature was $43^{\circ}3$, or $0^{\circ}8$ below the normal, the days being $1^{\circ}2$ above and the nights $2^{\circ}8$ below their respective averages. The month fell into two equal parts with quite different characteristics. Thus until the 15th sunshine was very abundant, with high day temperatures and cold nights. During this period the barometer was continuously high; but after the 15th the mercury was very irregular, and the weather continuously cold, with very low temperatures around the 19th. The maximum for the month was $72^{\circ}0$ at Clathick on 9th, and

the minimum $20^{\circ}0$ at Lednathie on 4th, and at Stronvar and Leadhills on 19th.

The mean rainfall was 1.77 inch, or 22 per cent below the normal. Towards the north and north-west there was an excess as a rule, amounting to 40 per cent at Glencarron; but east and south of the Grampians there was a decided shortage, several districts having hardly half their average rainfalls. In Fifeshire and part of Perthshire the month was the driest of 1906. The dry weather of the latter half of March was prolonged through the first half of April, many places being rainless, or all but so, until the 15th. Thereafter rain was frequent, with heaviest falls about 16th and 20th, Glencarron registering 1.71 inch on the latter date.

The month was a very sunny one, especially during the first two weeks. From 15th onward the weather was very changeable, and often of a wintry character, with frequent falls of snow or sleet.

Thunder in the north on 21st, and at Stronvar, Bucklyvie, and Drumlanrig on 30th.

MAY.—The mean temperature was $46^{\circ}9$, or $2^{\circ}1$ below the normal, the days being $3^{\circ}3$ and the nights $0^{\circ}8$ below their respective averages. Very low day temperatures were accompanied with cloudy skies, and there were no spells of warm weather. Indeed at times the weather was of a quite wintry character, especially during the third week, though the actual lowest temperatures at most places fell on 1st or 2nd, Lednathie having $22^{\circ}0$ in shade on the former day. Highest temperatures occurred about 7th, 13th, or between 26th and 30th, —Dumfries, with $73^{\circ}0$ on 13th, being the only station with a reading over $70^{\circ}0$.

The mean rainfall was 5.09 inches, or 122 per cent above the normal. In eastern districts generally the month was much the wettest May on record; and in East Lothian the excess was remarkable, Smeaton, with a total of 6.29 inches, having $3\frac{1}{2}$ times its average and more than 2 inches above any May rainfall in a record going back to 1834. There was a decided excess in all parts of the country, except perhaps in a small part of West Ross-shire; but whilst the excess was moderate toward the north-west, to the south and east of the Grampians nearly all districts had much more than twice, and some more than thrice, their normal amounts. The normal "gradient" was entirely inverted, and the south-east and south of the country constituted the rainiest region and not the north-west. The absence of heavy falls at nearly all West Coast stations calls for remark; but we note as much as 2.33 inches at Smeaton on 19th, and 2.09 inches at Logie Coldstone on 16th.

In Berwickshire, East Lothian, and the coast of Forfarshire more rain fell than during the first four months of the year together.

Sunshine was much below the average; thunderstorms general during the last week, and the month altogether an exceptional one. Especially from 16th to 19th the weather was of a wintry character, with snow in districts.

Destructive flooding occurred in East Lothian on 19th and 20th.

JUNE.—The mean temperature was $55^{\circ}\cdot8$, or $0^{\circ}\cdot9$ above the normal, the days being $1^{\circ}\cdot6$ and the nights $0^{\circ}\cdot1$ above their respective averages. As a rule, the excess was well marked. At both the beginning and end of the month the nights were very cold, especially on 28th in central and northern districts, whilst between 11th and 15th some considerable temperature variations were experienced. Thus the highest reading for Scotland was $82^{\circ}\cdot7$ at Paisley on 11th, whilst four days later the highest temperature there was only $60^{\circ}\cdot0$. The absolute minimum was $32^{\circ}\cdot0$ at Lednathie on 9th.

The mean rainfall was 1.39 inch, or 45 per cent below the normal. In most districts to the north of the Forth and Clyde this was the driest, in some cases decidedly the driest, month of the year. In East Lothian and the lower Tweed valley rainfall was about the average, but most stations had a shortage of from 30 to 50 per cent, whilst a few, such as Dunrobin and Stronvar, had only about one quarter of their normal amounts. From 2nd to 15th a practically rainless spell occurred in most districts, and towards the north-west this dry spell was prolonged until the 20th. Towards the close of the month rather heavy falls took place in the north, though dry conditions prevailed in the south.

Fresh snow was reported on the Grampians on 29th. Thunder occurred at isolated stations on various days.

Bright sunshine was rather above the average, though fog was somewhat prevalent around 10th, 18th, and 22nd.

JULY.—The mean temperature was $56^{\circ}\cdot0$, or $1^{\circ}\cdot3$ below the normal, the days being $0^{\circ}\cdot6$ and the nights $2^{\circ}\cdot0$ below their respective averages. A feature of the month was the absence of high day temperatures at many stations, whilst the nights were decidedly cold. Lowest readings were noted in most districts on 1st or 11th, but in some on 20th or later: $33^{\circ}\cdot0$ at Lairg on 1st, and $33^{\circ}\cdot2$ at Kingussie and $33^{\circ}\cdot5$ at Balmoral on 11th. Highest readings occurred chiefly between 22nd and 26th, but here and there early in the month, the actual highest being $78^{\circ}\cdot0$ at Dundee on 2nd and at Dumfries on 5th.

The mean rainfall was 2·68 inches, or 14 per cent below the normal. North-western stations had a decided excess, Fort William as much as 70 per cent; but in east and south there was a pronounced shortage. The generally dry character of June was continued until well on in the month; and most of the rain fell during the third week, except in parts of the eastern fringe of the country, where the 31st was a very wet day. Very heavy falls were registered in the north-west between 17th and 19th—the three days' aggregate at Glenquoich being more than 7 inches, whilst Fort William had 3·29 inches on 17th. We note farther south 1·11 inch at Leadhills on 16th, and 1·04 inch at Greenock on 18th. At Aberdeen a fall of 1·16 inch on that day was more than half the total for the month.

On 19th a sudden gale from the west, with a very low barometer and heavy rain, was severely felt in the north, and caused serious loss to the Shetland fishing fleet.

Severe thunderstorms occurred at some western stations on the night of 30th, and towards the east on 31st.

Sunshine was decidedly above the average in amount.

AUGUST.—The month of August was 57°·5, or 1°·0 above the normal, the days being 0°·8 and the nights 1°·2 above their respective averages. The most striking feature of the month was a remarkable heat wave which spread northwards from England during the last three days, with highest readings on 31st, when many stations had maxima above 80°·0, the actual highest being 85°·4 at Loanhead (Logie Coldstone). There were, however, some very cold periods, and about 22nd and 23rd the day temperatures were very low for the time of year. The lowest night temperature was 32°·3 at Lairg on 23rd, but in most districts the minimum was registered on the night of the 18th.

The mean rainfall was 4·83 inches, or 31 per cent above the normal. At Cargen (near Dumfries) a total of 8·74 inches was the heaviest August rainfall there for at least forty years, and in the south and east generally there was a large excess. At the other extreme, Stornoway had little more than half its average, and Fort William and Glencarron small deficiencies, whilst towards the west and north generally distribution was irregular. Heaviest falls occurred on 2nd, when Dumfries had 1·70 inch, on 8th (2·51 inch at Tillypronie), on 13th (1·08 inch at Smeaton), and on 16th (1·23 inch at Tillypronie). The closing days of the month were rainless.

A severe thunderstorm was general on 2nd, with serious flooding at Dundee and elsewhere.

For the greater part of the month the skies were much cloudier

than usual, with rather frequent fog, but the closing days were characterised by brilliant sunshine in all districts.

SEPTEMBER.—The mean temperature was $54^{\circ}5$, or $1^{\circ}7$ above the normal. The nights had practically their average temperature, but the days were $3^{\circ}4$ above. The remarkable heat wave of the last three days of August continued into the early days of September, with "record" readings in places. Gordon Castle reached 90° in the shade on 1st, Dumfries 89° on 2nd, Duns 89° on both 1st and 2nd, whilst 88° was touched at Paisley, Haddington, Dalkeith, Broomlands, and Wolfelee. Cooler weather set in about the 4th, and there were thereafter no very notable variations, though some ground frost occurred during the last week. Indeed frost in shade was registered at places; and we note $27^{\circ}0$ at Crathes on 27th, $28^{\circ}0$ at Kingussie on 17th, and $28^{\circ}9$ at Balmoral on 30th.

The mean rainfall was 1.82 inch, being 48 per cent below the normal, and the lowest September mean since 1895. In the Border counties some of the amounts registered were quite trifling, shortages of at least 50 per cent were widespread, and in most southern districts the month was the driest of the year. Deerness, however, had a trifling excess, whilst heavy falls occurred towards west and north on 5th, 11th, and 13th. We note—on 5th, 1.98 inch at Glencarron; on 11th, 1.02 inch at Dunrobin and 1.70 inch at Lochbuie; and on 13th, 1.26 inch at Baltasound (Shetland). The last half of the month was practically rainless.

The weather was stormy about the 5th. Thunder occurred here and there during the first half of the month, and large amounts of sunshine were recorded. Some dense fog, however, occurred during the closing days.

On the 22nd a brilliant aurora was visible in the north.

OCTOBER.—The mean temperature was $48^{\circ}0$, or $1^{\circ}5$ above the normal, the days being $1^{\circ}6$ and the nights $1^{\circ}4$ above their respective averages. Southerly winds were rather more frequent than usual, and the first ten days were exceedingly mild for the season. Indeed the only low temperatures experienced were on the 14th and for a few days thereafter, and at the very end of the month. The temperature excess was well marked in all districts, but especially to the south of the Forth and Clyde. The extremes reported were as follows: highest, $68^{\circ}0$ at Haddington on 5th and at Drumlanrig on 6th, and $67^{\circ}5$ at Lairg on 7th; lowest, $21^{\circ}0$ at Lairg on 30th, $23^{\circ}0$ at Balmoral on the same day, and $24^{\circ}0$ at Leadhills on 14th.

The mean rainfall was 5.91 inches, or 46 per cent above the

normal. In the Hebrides, Orkney, and the northern counties, rainfall was below the average, but elsewhere there was an excess of varying amount; and, considering the country as a whole, the month may be described as less wet than October 1903, but with that exception the wettest October since 1874. The Lothians and Berwickshire received considerably more than twice their average rainfall, Smeaton on 19th registering no less than 3·28 inches. The number of rainy days was large, few stations had a spell of three consecutive dry days, and very heavy falls occurred on 11th, 18th, and 19th, and from 26th to 28th. More than two inches fell at Gordon Castle, Balmoral, and Smeaton on 19th, and at Leadhills on 28th.

A north-easterly gale was general in east and north on 19th, and a southerly gale in north and west on 26th.

Snow fell in places about 14th and 19th; fog was rather frequent, especially in the east and north early in the month, and sunshine was on the whole deficient.

NOVEMBER. — The mean temperature was $44^{\circ}\cdot6$, or $3^{\circ}\cdot7$ above the normal, the days being $2^{\circ}\cdot8$ and the nights $4^{\circ}\cdot5$ above their respective averages. As in October, there were only brief interruptions of cold weather, these occurring about 10th, or between 17th and 21st, the decided temperature excess being well marked in all districts. From 22nd to 24th, and to a more moderate degree thereafter, unusually high temperatures prevailed under the influence of south-westerly winds. This was especially so in the Lothians and the North of Scotland, Leith and Gordon Castle both having maxima above $60^{\circ}\cdot0$ on three consecutive days. The absolute maximum was $68^{\circ}\cdot0$ at Lairg on 23rd, whilst the absolute minimum of $26^{\circ}\cdot0$ occurred at several stations, and on various days: at Bucklyvie on 10th, at Balmoral on 11th, at Lairg on 17th, and at Balmoral and Crathes on 21st.

The mean rainfall was 4·74 inches, or 25 per cent above the normal. The distribution was very irregular. Thus in the extreme south and west there was a moderate deficiency, whilst in Sutherlandshire and from Dunrobin, round the fringe of the Moray Firth, and in part of the mountain region of Aberdeenshire, the amounts were at places unprecedentedly heavy. Thus the Dunrobin total of 8·66 inches was about 3 inches above any November rainfall recorded in the last forty years. In northern districts, the first five days and the last half of the month were almost continuously wet, with very heavy falls from 17th to 19th. We note—on 17th, 1·67 inch at Dunrobin and 1·47 inch at Lairg; and on 19th, 2·50 inches at Balmoral, 1·77 inch at Dunrobin, and 1·36 inch at Gordon Castle.

Hail was fairly frequent, and in various districts a little snow or sleet fell between 18th and 20th. For the time of year fog was of extremely rare occurrence; and whilst the weather was rather stormy between 17th and 23rd, and at the close of the month, there were no very severe gales.

Sunshine was on the whole rather deficient.

DECEMBER.—The mean temperature was $37^{\circ}\cdot 0$, or $1^{\circ}\cdot 1$ below the normal, days being $0^{\circ}\cdot 7$ and nights $1^{\circ}\cdot 5$ below their respective averages. The mild weather of November was prolonged throughout the first week of the month; the second week was decidedly cold, milder conditions again prevailing. From 24th to 31st, with winds from the north-west, the weather was of an extremely wintry character, with lowest readings in general on the night of the 30th, but towards south-west and south on 26th. At Aberdeen during the two days 29th and 30th the thermometer did not rise above $21^{\circ}\cdot 0$, whilst the lowest shade readings were $4^{\circ}\cdot 0$ at Crathes, $7^{\circ}\cdot 0$ at Balmoral, and $9^{\circ}\cdot 0$ at Leadhills. Highest readings were noted on 2nd and 3rd, or between 17th and 19th, Lednathie reporting $59^{\circ}\cdot 3$ on 3rd, and Crathes $58^{\circ}\cdot 0$ on 2nd.

The mean rainfall was $3\cdot 92$ inches, or 5 per cent below the normal. Over about half the country there was a decided shortage; in parts the agreement with the normal was close; whilst in Orkney, towards north-west and south-west, in East Lothian, and in parts of Aberdeenshire there was an excess. In the north-west rain fell on every day from 1st to 20th, Glencarron registering about $7\frac{1}{2}$ inches during the first five days and more than $3\frac{1}{2}$ inches on the 3rd alone. In many districts but little rain fell from 17th to 24th; whilst the heaviest general falls took place early in the month, on the 12th and on the 15th. During the last week precipitation was in the form of snow.

The month was memorable for a severe snow-storm experienced during the last six days. With a gale from the north-west the storm was of the nature of a blizzard, and parts of the north-east of Scotland and the Border counties were isolated for some days, the drifts being in places of great depth.

The weather was stormy also in north and west from 5th to 7th, and from 12th to 14th a moderate snow-storm occurred in districts.

Sunshine was slightly in excess. Thunder occurred at some western places on 5th; and in Shetland and at Aberdeen on 27th.

The exceptionally heavy rains in May occasioned much

damage to the turnip-crop in south-eastern counties, and again the equally heavy rains in October over nearly the same districts did much damage to the outstanding crops still in the fields. Otherwise the weather was on the whole favourable to the farmer.

Cutting commenced generally about a week later than the average time, except in Shetland, Orkney, the Buchan district, eastern districts south of Montrose, the Clyde basin, and the counties of Ayr and Wigtown.

Wheat was on the whole an average crop, and in some districts rather over it, whilst in a few scattered places it was under the average.

Barley showed a shortage, more or less, from the Cheviots to near the Moray Firth. As regards *Oats* the shortage may be considered as covering the districts south of the Grampians. To the north of this the crop was on the whole a very good average.

Potatoes were a good crop, chiefly over districts to the north of the Grampians; southward, however, while a few districts gave a very good average, the crop was deficient in many places, and disease made its appearance owing to the persistent wet weather.

Turnips were a good crop, showing in many places a high average, except where the crop was damaged by the heavy rains of May.

Hay and Pastures were unwontedly heavy crops, brought about by the large rainfall of the year and its distribution through the months.

TABLE No. 1.—ACREAGE UNDER CROPS AND GRASS IN EACH COUNTY OF SCOTLAND.

COUNTIES.	CORN CROPS.										Total Average under Crops and Grass.	Arable Land.	Permanent Grass.	OTHER CROPS.									
	Wheat.	Barley or Oats.	Rye.	Beans.	Peas.	Turnips or Swedes.	Mangel.	Cabbage.	Rape.	Vetches or Tares.				Small Fruit.	Grasses under Clover, Rotation.	Other crops.	Bare Fallow.						
1. Aberdeen ..	Acres. 699,168	Acres. 87,578	Acres. 591,580	Acres. 187,457	Acres. 538	Acres. 813	Acres. 218,061	Acres. 7,389	Acres. 126	Acres. 136	Acres. 2,429	Acres. 373	Acres. 278,800	Acres. 859	Acres. 378								
2. Argyle ..	Acres. 188,468	Acres. 17,843	Acres. 166,116	Acres. 147,670	Acres. 100	Acres. 100	Acres. 49,633	Acres. 4,098	Acres. 153	Acres. 91	Acres. 15	Acres. 23	Acres. 26,188	Acres. 240	Acres. 136								
3. Argyll ..	Acres. 164,961	Acres. 164,961	Acres. 164,961	Acres. 147,670	Acres. 100	Acres. 100	Acres. 49,633	Acres. 4,098	Acres. 153	Acres. 91	Acres. 15	Acres. 23	Acres. 26,188	Acres. 240	Acres. 136								
4. Argyll ..	Acres. 164,961	Acres. 164,961	Acres. 164,961	Acres. 147,670	Acres. 100	Acres. 100	Acres. 49,633	Acres. 4,098	Acres. 153	Acres. 91	Acres. 15	Acres. 23	Acres. 26,188	Acres. 240	Acres. 136								
5. Banff ..	Acres. 160,199	Acres. 9,435	Acres. 150,774	Acres. 42,176	Acres. 74	Acres. 131	Acres. 67	Acres. 58,164	Acres. 2,904	Acres. 638	Acres. 485	Acres. 200	Acres. 88,065	Acres. 340	Acres. 189								
6. Banff ..	Acres. 160,199	Acres. 9,435	Acres. 150,774	Acres. 42,176	Acres. 74	Acres. 131	Acres. 67	Acres. 58,164	Acres. 2,904	Acres. 638	Acres. 485	Acres. 200	Acres. 88,065	Acres. 340	Acres. 189								
7. Berwick ..	Acres. 181,778	Acres. 143,687	Acres. 48,116	Acres. 47,186	Acres. 44	Acres. 814	Acres. 4	Acres. 52,760	Acres. 7,486	Acres. 86,190	Acres. 221	Acres. 459	Acres. 68,404	Acres. 84	Acres. 386								
8. Berwick ..	Acres. 181,778	Acres. 143,687	Acres. 48,116	Acres. 47,186	Acres. 44	Acres. 814	Acres. 4	Acres. 52,760	Acres. 7,486	Acres. 86,190	Acres. 221	Acres. 459	Acres. 68,404	Acres. 84	Acres. 386								
9. Bute ..	Acres. 25,777	Acres. 9,525	Acres. 16,252	Acres. 4,829	Acres. 81	Acres. 50	Acres. 5	Acres. 6,010	Acres. 1,003	Acres. 1,804	Acres. 2	Acres. 60	Acres. 8,246	Acres. 2	Acres. 77								
10. Caithness ..	Acres. 117,897	Acres. 88,708	Acres. 29,196	Acres. 82,771	Acres. 106	Acres. 6	Acres. 13	Acres. 34,018	Acres. 1,644	Acres. 19,987	Acres. 16	Acres. 60	Acres. 13,466	Acres. 5	Acres. 102								
11. Dumfriesshire ..	Acres. 15,971	Acres. 9,749	Acres. 6,222	Acres. 7,987	Acres. 7	Acres. 173	Acres. 8	Acres. 8,231	Acres. 380	Acres. 806	Acres. 23	Acres. 51	Acres. 12,898	Acres. 3	Acres. 53								
12. Dumfriesshire ..	Acres. 15,971	Acres. 9,749	Acres. 6,222	Acres. 7,987	Acres. 7	Acres. 173	Acres. 8	Acres. 8,231	Acres. 380	Acres. 806	Acres. 23	Acres. 51	Acres. 12,898	Acres. 3	Acres. 53								
13. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
14. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
15. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
16. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
17. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
18. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
19. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
20. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
21. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
22. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
23. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
24. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
25. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
26. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
27. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
28. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
29. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
30. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
31. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
32. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
33. Dundee ..	Acres. 287,164	Acres. 144,768	Acres. 142,392	Acres. 79,784	Acres. 8	Acres. 82	Acres. 6	Acres. 48,051	Acres. 6,096	Acres. 17,819	Acres. 880	Acres. 468	Acres. 79,761	Acres. 47	Acres. 65								
Total	4,876,089	8,482,914	1,440,135	80,081	968,785	6,747	11,520	981	1,244,810	140,186	448,956	2,432	8,195	6,975	8,680	9,989	1,556,948	2,005	7,178				

TABLE No. 8.—ESTIMATED TOTAL PRODUCE OF BEANS, PEAS, AND POTATOES, AVERAGE and Estimated YIELD per Acre in the Year 1905, compared with the Estimated YIELD for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1895-1904, in each COUNTY of SCOTLAND.

COUNTIES.	BEANS.					PEAS.					POTATOES.						
	Esti- mated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Esti- mated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Esti- mated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.				
			1905.	1904.	1903.			1905.	1904.	1903.			1905.	1904.	1903.		
Average of the Ten Years 1895-1904.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Tons.	Tons.	Tons.	Tons.	Average of the Ten Years 1895-1904.		
Aberdeen	2,988	134	20.06	23.43	26.17	25.95	173	21.77	18.12	19.84	33,557	7,785	4.98	6.08	4.40	5.12	
Argyll	1,668	63	26.48	31.20	23.68	30.84	8	25.00	25.60	16.67	21.74	7,785	4.98	6.08	4.40	5.12	
Ayr	25,279	701	80.66	84.05	29.76	33.85	276	34.37	34.50	32.10	19.94	25.00	6.92	8.21	5.28	4.87	
Barr	8,740	123	80.66	29.43	17.71	36.12	28	19.80	23.68	17.61	84.20	9,958	8.99	8.21	7.25	7.08	
Bervick	92,193	824	89.07	31.20	33.23	33.62	609	18.85	27.08	17.61	31.71	14,377	2,048	9.04	6.68	6.80	
Bute	1,048	88	27.58	32.23	20.23	22.85	74	24.67	27.00	28.00	97.31	2,679	8.27	6.89	6.28	6.10	
Caithness	16,084	407	30.52	4.94	6.00	6.78	8	..	6.00	5.50	18.70	1,001	8.18	8.08	7.41	6.01	
Clackmannan	8,749	125	39.69	37.04	35.66	34.02	..	..	..	..	8.88	1,708	4.56	7.29	4.70	5.66
Dumfriesshire	1,414	14	31.71	30.00	27.00	33.28	3	31.33	24.26	19.40	22.29	2,481	8.33	7.27	6.81	9.31	
Dumfries	1,797	40	36.67	37.83	31.61	33.82	11	27.32	25.36	26.40	22.89	24,472	3,797	6.45	6.78	7.42	
Edinburgh	617	26	19.58	26.69	26.92	33.81	183	31.96	30.00	27.12	27.29	7,590	8.71	8.38	8.07	6.14	
Elgin or Moray	84,620	984	35.08	36.54	34.83	34.56	192	17	15.04	23.74	25.17	63,546	7,290	6.44	6.88	7.29	
Forfar	10,403	388	30.78	32.30	30.59	33.85	29	6	32.00	38.20	34.56	125,909	16,889	7.45	7.49	5.60	
Galloway	12,253	830	37.13	36.12	35.13	35.04	767	95	29.10	27.92	31.11	97,551	14,852	6.57	7.87	6.20	
Haddington	216	9	24.00	18.00	16.00	18.36	106	11	17.82	19.80	28.36	72,047	9,157	7.57	7.81	6.80	
Inverness	9,760	288	34.09	34.19	34.56	36.64	527	19	27.74	28.18	32.00	28,277	6,159	4.59	4.40	3.98	
Kincardine	792	22	36.00	34.00	31.00	32.67	..	..	..	..	30.41	16,387	2,992	6.29	6.88	5.71
Kinross	1,635	50	32.52	29.09	31.00	31.15	90	3	30.00	26.00	22.25	10,063	1,600	6.26	7.21	5.56	
Kirkcubright	12,871	880	32.52	32.71	30.56	33.71	272	13	20.92	24.10	23.17	42,300	4,928	8.59	8.29	6.76	
Leven	8,292	223	36.69	34.98	31.85	35.85	259	7	32.71	33.00	28.00	17,530	2,315	7.57	7.62	7.17	
Linlithgow	..	..	..	..	..	..	113	6	18.67	12.76	18.50	..	387	4.00	6.69	4.88
Nairn	20	1	30.00	..	..	..	..	..	..	..	*30.56	1,348	5.99	6.54	4.93	6.55
Orkney	..	..	..	..	..	..	..	..	..	..	25.18	2,768	4.46	4.88	4.66	6.56
Peebles	60,187	1,776	33.68	37.31	32.28	35.07	116	4	29.00	28.00	26.32	2,671	347	7.70	7.61	6.86	
Perth	6,083	123	30.56	37.63	35.07	33.85	112	6	22.40	28.71	30.87	104,287	14,514	7.28	7.61	6.86	
Renfrew	1,189	17	11.12	16.00	16.33	17.98	108	3	36.00	35.87	32.87	35,321	3,205	7.29	7.39	7.14	
Ross and Cromarty	9,187	276	32.29	35.37	36.41	31.46	804	10	10.88	18.96	15.16	26,611	7,327	5.60	4.16	3.89	
Roxburgh	..	..	..	..	..	..	..	..	..	..	38.30	9,680	1,896	7.21	6.08	5.84
Salisbury	..	..	..	..	..	..	..	..	..	..	*27.37	1,170	0.00	6.00	4.00	4.63
Shetland	..	..	..	..	..	..	..	..	..	..	12,276	2,868	4.30	4.08	3.99	4.63
Stirling	100,562	2,471	42.04	34.09	30.83	31.05	165	4	41.25	28.80	22.67	26,44	28,986	8,345	8.07	8.16	7.64
South Ayrshire	4,368	137	32.00	36.58	34.00	34.00	150	6	25.00	11.25	14.89	5,652	1,694	5.68	5.87	8.83	
Wigtown	..	..	..	..	..	..	..	..	..	..	26.64	7,935	1,469	5.29	5.00	4.51
Total	864,818	9,923	36.76	34.53	31.94	33.08	680	27.16	36.74	30.30	35.54	979,641	144,365	6.79	7.13	5.64	5.90

TABLE No. 4.—ESTIMATED TOTAL PRODUCE OF TURNIPS (including SWEDS) and MANGELS, AVERAGE and ESTIMATED YIELD per Acre in the Year 1906, compared with the Estimated Yield for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1896-1904, in each COUNTY OF SCOTLAND.

COUNTY.	Estimated Total Produce in 1906.	TURNIPS.				MANGELS.				
		Estimated Yield per Acre.				Acres in 1906.	Estimated Yield per Acre.			
		1906.	1904.	1905.	Average of the Ten Years, 1896-1904.		1905.	1904.	1903.	
										Tons.
Aberdeen	1,387,010	Acres. 57,650	Tons. 15.28	Tons. 16.58	Tons. 13.97	12	Tons. 12.92	Tons. 18.60	Tons. 11.81	Average of the Ten Years, 1896-1904
Argyll	84,448	5,692	15.10	17.50	11.78	49	10.12	11.80	11.80	
Ayr	143,770	6,484	22.48	16.90	17.50	691	24.11	18.81	18.81	
Banff	840,770	21,647	18.06	21.89	16.90	4	9.00	9.67	6.00	
Berwick	443,060	26,803	17.19	17.03	13.89	232	24.76	18.08	11.86	
Bute	24,401	1,884	17.08	21.28	13.89	7	16.86	17.12	13.77	
Caithness	255,951	18,202	19.89	14.06	11.41	4	10.00	6.00	8.06	
Clackmannan	10,205	500	12.76	13.57	9.78	40	10.00	9.80	9.89	
Dumfries	28,089	1,874	20.44	17.97	12.81	95	17.48	18.16	15.82	
Dumfriesshire	17,883	14,37	16.65	17.44	13.72	382	14.08	14.12	16.98	
Edinburgh	186,904	10,671	18.04	20.02	18.68	51	22.18	23.24	20.34	
Elgin or Moray	900,075	15,047	18.04	10.97	14.77	9	19.00	18.69	19.27	
Fife	824,380	22,640	14.88	20.83	11.86	86	11.86	11.08	17.20	
Forfar	684,985	82,252	18.14	31.07	16.72	87	10.86	10.17	18.57	
Glasgow	971,984	14,891	18.24	19.80	17.85	200	20.89	21.74	18.24	
Inverness	190,180	10,652	18.09	9.16	8.20	17	24.39	9.55	18.84	
Kilbride	280,074	17,116	13.44	14.46	10.32	11	8.00	18.00	10.66	
Kilcubbin	86,990	2,623	14.10	15.22	14.10	8	8.00	8.00	14.88	
Kirkcubright	11,429	17.41	20.61	14.04	17.26	118	18.30	20.02	18.04	
Leamington	168,142	9,849	17.09	10.83	21.78	26	9.28	10.89	12.70	
Lanark	62,185	8,609	17.71	20.99	16.18	14	18.86	18.56	16.55	
Lanarkshire	60,899	4,256	14.31	17.82	16.62	7	16.00	15.85	16.01	
Na harr	14,498	6.55	11.04	8.14	9.66	8	20.00	14.00	16.01	
Orkney	81,995	3,880	21.10	19.69	18.66	1	20.00	19.40	16.93	
Perth	476,817	27,649	17.80	20.02	18.67	48	16.38	10.15	8.27	
Renfrew	87,817	2,105	17.73	16.85	18.92	35	18.60	18.92	14.78	
Ross and Cromarty	107,325	15,606	6.92	8.09	7.76	86	18.60	18.92	10.14	
Roxburgh	397,739	20,615	16.98	17.93	18.62	91	7.99	9.56	6.97	
Selkirk	42,847	2,491	17.00	17.00	16.00	51	17.83	18.68	12.44	
Shetland	17,842	1,476	12.00	12.28	10.14	..	..	14.00	12.00	
Strathclyde	72,221	4,167	17.25	14.23	10.91	..	..	14.00	11.80	
Strathclyde	25,547	3,098	7.17	7.17	6.64	..	..	14.00	6.00	
Wigtown	276,724	14,010	19.15	18.44	16.60	926	18.54	17.87	17.65	
Total	7,165,794	445,318	16.08	17.25	13.26	2,382	18.94	16.28	14.84	
						46,109			17.28	

TABLE No. 5.—ESTIMATED TOTAL PRODUCE OF HAY from Clover, Sainfoin, and Grasses under Rotation, also Total from Permanent Pasture, AVERAGE, and Estimated YIELD per Acre in the Year 1905, compared with the Estimated YIELD for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1896-1904, in each COUNTY OF SCOTLAND.

Counties.	FROM CLOVER, SAINFOIN, AND GRASSES.					FROM PERMANENT PASTURE.					
	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.		
			1905.	1904.	1903.				1905.	1904.	1903.
	Owt.	Acrea.	Owt.	Owt.	Owt.	Owt.	Owt.	Acrea.	Owt.	Owt.	Owt.
Aberdeen	70,238	51,366	27.35	26.31	26.53	26.99	4,261	4,006	21.27	17.67	12.77
Argyll	16,852	11,840	29.72	30.41	29.13	29.13	25,074	16,244	30.37	31.19	26.77
Ayr	54,325	83,019	33.00	35.43	30.38	33.40	89,178	17,068	43.03	45.60	35.18
Banff	16,166	10,960	29.60	32.06	19.15	26.60	17,291	17,291	17.23	19.32	19.44
Berwick	10,649	10,489	30.60	34.66	31.57	31.07	1,321	1,408	17.94	20.45	26.97
Bute	4,466	2,216	40.31	35.08	31.69	33.88	1,520	1,788	41.30	33.78	28.64
Cathness	10,084	9,696	22.07	9.21	10.05	17.40	1,838	2,532	14.52	8.84	7.92
Clackmannan	8,704	1,919	38.80	39.48	37.76	36.21	860	545	31.55	34.25	28.14
Dumbarton	10,615	6,880	30.86	38.32	33.80	37.43	9,014	1,885	31.98	39.88	40.29
Dumfries	21,397	19,847	20.98	23.69	20.23	26.03	24,816	18,745	26.48	31.01	27.42
Edinburgh	36,117	13,565	53.17	57.80	54.02	53.76	5,161	2,995	34.40	36.25	31.12
Elgin or Moray	8,092	5,910	27.88	24.40	24.07	25.70	6,161	2,485	21.29	19.92	19.66
Fife	44,778	28,615	31.29	40.89	39.41	31.61	4,768	8,753	25.86	33.75	26.89
Forfar	37,965	21,861	84.78	85.87	81.70	87.02	5,260	1,046	38.75	23.88	23.99
Glasgow	20,028	11,062	52.47	60.41	61.90	64.90	1,410	50.89	32.12	36.40	20.88
Inverness	14,566	11,613	25.80	17.81	18.06	19.94	8,043	6,471	24.87	21.08	19.31
Kincardine	17,663	18,649	25.88	25.10	25.38	27.89	8,744	6,077	14.76	14.38	18.09
Kirkcubright	4,654	2,877	32.35	34.59	34.24	33.30	1,879	851	82.41	36.68	32.01
Kirkcubright	18,038	9,460	27.55	29.20	22.34	26.89	16,894	18,374	25.25	27.87	26.12
Leamark	31,544	87,502	32.83	39.54	34.81	36.80	12,825	8,851	27.85	37.47	34.92
Lindisgow	7,425	7,425	57.79	65.59	62.86	64.40	5,254	1,948	38.44	5.91	51.12
Nairn	1,702	2,095	16.72	13.18	16.19	19.92	38	69	13.00	18.40	15.31
Orkney	9,003	6,683	20.98	17.81	17.85	19.88	654	1,097	10.88	8.60	8.99
Peebles	2,431	8,481	32.13	42.07	33.27	32.71	1,690	1,974	32.55	34.05	30.07
Perth	52,403	82,441	32.81	31.88	37.04	30.11	14,688	11,176	26.19	26.08	22.77
Renfrew	28,015	13,988	41.89	40.70	32.94	36.10	11,882	5,435	41.69	46.60	43.14
Ross and Cromarty	10,982	14,638	15.16	16.14	17.84	17.84	727	2,651	27.89	31.94	27.47
Roxburgh	11,989	6,894	33.07	34.67	39.77	31.71	8,496	6,102	37.85	33.51	25.88
Selkirk	1,587	1,025	13.13	13.00	16.00	28.27	2,253	1,718	14.11	15.11	15.09
Shetland	687	1,016	18.41	13.48	10.70	36.16	1,430	1,629	25.70	33.96	34.06
Stirling	22,322	18,815	32.82	37.19	34.61	36.03	4,823	4,928	18.64	5.66	6.07
Sutherland	2,263	4,178	13.73	13.68	14.71	14.71	1,017	1,502	13.68	13.68	7.98
Wigtown	7,621	4,616	33.02	36.07	31.57	33.30	4,446	4,384	30.28	31.98	19.94
Total	666,985	427,686	31.19	33.31	26.94	31.70	209,908	147,684*	28.46	30.98	27.46
											28.86

* This Acreage is less than that stated in some other Tables by 808 acres, which were originally returned for the county of Orkney as "Grass for Hay," but were subsequently stated to have been used for grazing.

TABLE No. 6.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN EACH COUNTY OF SCOTLAND AS RETURNED ON JUNE 4, 1906.

COUNTY.	HORSES (including Ponies).			CATTLE.			SHEEP.		
	Used anyway for turf, &c.*	Unbroken Horses.		Cows and Heifers in Milk or In Calf.	Other Cattle.		1 Year Old and above.	Under 1 Year.	Pigs.
		1 Year and above.	Total.		2 Years and above.	Under 2 Years.			
1. Aberdeen	28,841	6,178	81,835	49,148	48,016	89,819	190,007	92,847	12,817
2. Argyll	4,539	1,849	6,395	29,739	18,185	29,094	569,983	274,217	4,203
3. Ay	7,487	1,605	9,092	18,718	15,718	48,845	217,869	890,116	13,989
4. Banff	6,704	1,709	9,130	13,414	6,918	23,605	88,094	36,308	8,374
5. Berwick	4,854	813	6,388	8,239	5,468	9,060	158,395	149,781	8,490
6. Bute	974	200	1,234	8,733	1,581	4,273	87,411	44,086	3,440
7. Caithness	4,481	938	5,783	7,994	2,848	11,892	21,681	49,789	1,468
8. Clackmannan	535	150	739	1,874	1,083	1,391	3,700	6,164	1,909
9. Dumfriesshire	1,484	276	1,854	6,695	3,275	2,480	14,580	26,529	1,145
10. Dundee	6,013	1,588	8,070	21,605	18,706	29,921	60,129	222,908	8,802
11. Edinburgh	8,894	653	9,545	11,694	3,704	4,622	20,220	76,464	8,802
12. Elgin	8,812	898	10,344	6,444	5,627	11,710	21,986	22,248	2,081
13. Fife	1,011	698	12,176	18,479	18,569	40,543	56,086	51,218	4,010
14. Forfar	1,993	213	10,307	12,000	19,821	30,668	52,040	109,748	7,105
15. Haddington	8,421	1,582	9,637	21,885	4,684	8,063	9,785	75,084	1,764
16. Inverness	7,732	114	8,659	6,045	6,698	21,862	49,775	171,845	2,823
17. Kinross	4,072	693	5,857	6,726	1,227	4,373	26,078	20,291	2,073
18. Kirkcubright	827	268	1,199	1,486	1,227	4,373	18,890	14,845	599
19. Leith	4,087	1,199	457	16,819	18,017	20,667	60,468	106,949	8,844
20. Linlithgow	6,911	1,488	8,904	89,710	11,071	21,820	78,507	89,569	399,506
21. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
22. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
23. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
24. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
25. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
26. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
27. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
28. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
29. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
30. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
31. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
32. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
33. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
34. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
35. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
36. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
37. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
38. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
39. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
40. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
41. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
42. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
43. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
44. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
45. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
46. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
47. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
48. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
49. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
50. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
51. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
52. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
53. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
54. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
55. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
56. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
57. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
58. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
59. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
60. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
61. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
62. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
63. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
64. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
65. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
66. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
67. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
68. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
69. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
70. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
71. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
72. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
73. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
74. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
75. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
76. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
77. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
78. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
79. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
80. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
81. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
82. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
83. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
84. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
85. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
86. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
87. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
88. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
89. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
90. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
91. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
92. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
93. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
94. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
95. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
96. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
97. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
98. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
99. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
100. Perth	1,045	421	2,368	4,957	8,216	4,097	12,300	7,202	1,308
Total	155,921	25,812	306,182	484,470	264,276	508,698	1,202,379	2,729,821	6,094,888
							4,371,017		180,199

* Including Mares kept for breeding.

TABLE NO. 7.—QUANTITY AND VALUE OF CORN, &c., imported into the United Kingdom in the undermentioned Years.

[From Trade and Navigation Returns.]

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
Wheat from—	Cwt.	Cwt.	Cwt.	£	£	£
Russia	23,529,500	24,703,200	15,017,500	8,444,134	9,142,146	5,224,904
Germany	251,000	800,000	71,800	91,351	111,745	23,106
Turkey	431,200	244,800	242,100	127,263	80,217	81,577
Roumania	1,491,800	2,082,200	3,780,900	512,001	752,016	1,276,085
United States—						
Atlantic Ports	4,948,400	5,082,000	17,163,300	1,763,362	1,881,497	6,120,781
Pacific Ports	2,108,200	1,552,700	5,327,600	754,063	572,080	1,910,509
Chile	915,400	162,800	800	327,303	57,672	285
Argentine Republic	21,440,400	23,238,400	19,176,500	7,522,331	8,282,388	6,678,413
British East Indies	25,498,000	22,807,422	12,636,300	8,498,520	7,882,978	4,327,681
Australia	10,272,600	10,054,700	7,785,100	3,754,402	3,800,270	2,829,720
New Zealand	358,100	389,000	79,400	123,633	119,160	29,789
Canada	6,195,300	6,522,030	11,309,700	2,229,791	2,412,137	4,041,443
Other countries	352,600	524,600	876,300	118,253	184,775	122,942
Total	97,732,500	97,622,752	92,067,200	34,266,416	35,279,931	32,676,185
Wheat and flour, from—						
Germany	264,740	479,300	190,600	142,710	262,610	97,866
Belgium	540,810	765,800	262,900	264,867	374,907	127,622
France	1,486,920	1,034,503	560,500	647,426	472,898	240,682
Austria-Hungary	733,294	622,885	627,630	430,253	359,881	341,890
United States	8,252,602	5,685,413	9,800,870	4,095,749	2,896,317	4,744,970
Argentine Republic	233,900	616,800	143,700	126,316	286,759	53,689
Australia	736,290	1,019,500	540,300	402,224	507,745	253,057
Canada	2,045,767	1,380,100	1,810,500	1,014,124	653,804	870,707
Other countries	223,570	400,487	239,300	134,431	200,936	77,710
Total	14,722,898	11,954,763	14,190,300	7,258,600	6,044,845	6,817,213
Barley	27,152,300	21,426,900	19,934,500	7,161,600	6,017,350	5,677,587
Oats	14,097,700	17,095,463	15,288,500	3,726,121	4,713,266	4,532,160
Peas	2,179,506	2,015,876	1,453,420	767,097	725,104	614,649
Beans	1,862,686	1,325,050	634,250	577,094	414,227	231,758
Indian corn or maize	42,897,880	42,101,210	48,685,200	10,247,184	11,084,748	11,072,686
Indian corn meal	316,660	459,188	616,200	100,940	144,829	195,302
Oatmeal	648,770	653,199	661,809	456,593	463,293	495,980
Offals of corn and grain, including rice-meal	3,136,560	3,129,810	4,084,716	591,242	638,915	901,741
Rice, exclusive of rice-meal—						
From Brit. East Indies	4,372,777	4,078,406	2,891,847	1,597,399	1,586,567	1,225,396
From other countries	1,395,292	1,529,832	2,387,307	671,945	739,855	1,071,230
Other kinds of grain and corn	1,564,170	1,595,214	1,626,830	475,304	532,641	585,254
Other kinds of meal and flour	96,264	117,220	120,022	38,590	48,816	51,306
Total of corn, &c. . . . .	..	..	..	67,936,074	68,384,406	67,021,447

TABLE NO. 8.—RETURN OF THE AVERAGE PRICES OF WOOL in the Years 1904 and 1905.

Years.	Australian.	South African.	English Fleeces.
	Per lb.	Per lb.	Per lb.
	s. d.	s. d.	s. d.
1904	0 10	0 7½	0 8½ " 0 11½
1905	0 10½	0 7½	0 11½ " 0 12½

TABLE No. 9.—QUANTITIES AND VALUES OF CORN, MEAT, FOOD PRODUCTS,
in the Year 1906, with the

[From Trade and

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
ANIMALS, LIVING:—	No.	No.	No.	£	£	£
Cattle	549,532	565,189	561,215	9,736,436	9,665,806	9,732,180
Sheep and lambs	382,240	183,084	108,859	591,984	278,753	156,947
Swine . . . . .	..	150	..	..	800	..
Total value . . . . .	..	..	..	10,328,420	9,944,859	9,889,127
GRAIN, FLOUR, &c. —	Cwt.	Cwt.	Cwt.	£	£	£
Wheat	97,782,500	97,622,752	92,967,200	84,266,416	35,279,981	32,678,185
Wheat meal and flour . .	14,722,893	11,954,763	14,190,300	7,258,600	6,044,845	6,517,213
Barley	27,152,300	21,426,900	19,934,500	7,161,600	6,017,350	5,677,587
Oats	14,097,700	17,095,463	15,286,500	3,726,120	4,713,265	4,532,160
Peas	2,179,506	2,015,876	1,458,420	767,097	725,104	614,640
Beans	1,862,686	1,225,050	684,280	577,094	414,227	281,758
Mauze or Indian corn . .	42,897,880	42,101,210	48,685,200	10,247,184	11,084,748	11,972,686
Mauze-meal	316,660	459,188	616,200	100,940	144,829	195,802
Oatmeal	643,770	633,199	661,509	456,598	463,293	498,980
Offals of corn and grain, including rice-meal	8,136,560	8,129,810	4,064,716	591,242	638,915	901,741
Rice, exclusive of rice- meal—						
From British East Indies	4,572,777	4,078,406	2,391,847	1,597,899	1,586,587	1,225,396
From other countries .	1,895,362	1,529,832	5,608,238	671,945	789,855	1,071,230
Other kinds of grain & corn	1,564,170	1,595,214	1,020,330	475,304	582,641	556,254
Other kinds of meal and flour	96,264	117,220	120,023	38,590	48,816	51,306
Total value . . . . .	..	..	..	67,986,074	68,384,406	67,021,447
MEAT:—	Cwt.	Cwt.	Cwt.	£	£	£
Beef, salted	144,304	142,806	161,363	187,288	202,307	217,947
" fresh	4,350,031	5,087,521	5,529,129	8,058,841	8,931,598	9,798,670
Mutton, fresh	3,494,782	3,811,069	4,088,689	6,861,531	7,396,490	7,655,543
Bacon	5,452,811	5,498,960	5,542,622	12,382,142	12,774,855	14,644,095
Hams	1,944,008	1,818,802	1,302,751	3,104,999	3,118,372	3,491,594
Pork, salted (not bacon or hams)	248,542	205,965	206,056	294,080	252,606	266,800
Pork, fresh	610,485	505,038	492,171	1,378,467	1,162,870	1,130,950
Meat, unenumerated— salted or fresh	681,012	670,144	652,563	1,164,442	1,225,692	1,145,466
Meat preserved otherwise than by salting	813,018	833,029	487,422	2,458,591	2,647,195	1,822,671
Rabbits (dead)	533,698	656,073	803,556	780,737	835,929	1,000,786
Total of dead meat . . .	17,517,486	18,679,507	19,366,122	37,120,618	38,487,409	41,169,522
DAIRY PRODUCE:—	Cwt.	Cwt.	Cwt.	£	£	£
Butter	4,241,005	4,147,866	4,338,383	21,117,162	21,586,622	23,466,252
Margarine	960,378	1,088,259	1,101,962	2,494,467	2,735,736	2,733,795
Cheese	2,554,297	2,443,682	2,638,776	5,843,770	6,339,811	7,607,641
Total	7,755,580	7,678,807	8,079,121	29,455,399	30,662,169	33,807,688

AND ARTICLES AFFECTING AGRICULTURE, imported into the United Kingdom
Corresponding Figures for 1904 and 1905.

Navigation Returns.

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
POULTRY (alive or dead)	..	..	..	£ 1,089,145	£ 905,791	£ 869,117
GAME (alive or dead)	..	..	..	128,182	98,689	116,840
Eggs	Gt. Hunds. 19,942,594	Gt. Hunds. 18,514,298	Gt. Hunds. 18,874,109	6,780,574	6,812,486	7,098,137
Total value . . . . .	..	..	..	7,947,851	7,811,916	8,088,594
FRUIT, VEGETABLES, &c.:—	Cwt.	Cwt.	Cwt.	£	£	£
Apples	3,771,781	3,494,660	2,808,732	2,118,294	2,065,198	1,753,577
Cherries	260,724	186,682	190,874	819,824	253,042	246,383
Plums	498,707	480,211	891,518	526,488	524,878	769,082
Pears	535,614	417,919	576,220	503,573	407,817	571,722
Grapes	853,572	700,050	690,371	327,694	761,632	667,969
Oranges	5,553,254	5,068,526	5,231,954	2,198,146	1,949,496	2,183,968
Lemons	989,396	887,028	849,983	408,500	419,049	440,406
Unenumerated	654,765	502,097	504,845	372,575	354,143	388,596
Onions	Bushels. 3,292,136	Bushels. 7,587,025	Bushels. 3,810,534	1,076,472	1,094,802	953,615
Potatoes	Cwt. 9,993,965	Cwt. 8,664,290	Cwt. 3,816,373	2,487,971	1,404,607	1,332,027
Vegetables, unenumerated } (raw)	..	..	..	457,491	419,752	404,370
Hops	813,667	108,953	232,619	1,839,854	456,280	352,476
Total value . . . . .	..	..	..	13,081,772	10,110,486	10,554,688
OTHER ARTICLES:—	Cwt.	Cwt.	Cwt.	£	£	£
Lard	1,530,837	2,012,305	2,049,367	3,342,389	3,692,373	4,361,399
Wool, sheep and lambs'	Lb. 561,677,838	Lb. 615,708,827	Lb. 639,553,059	20,366,080	23,821,825	27,154,436
Wood and timber—	Loads.	Loads.	Loads.			
Hewn (pit-props or pit-wood) }	2,332,577	2,120,333	2,451,669	2,485,113	2,237,014	2,718,004
Sawn or split, planed or dressed }	6,066,236	5,986,526	6,692,260	15,505,799	15,265,330	18,533,958
Staves	133,176	119,182	139,041	527,696	553,092	632,568
Oilseed-cake	Tons. 371,809	Tons. 357,580	Tons. 300,188	2,128,817	2,206,165	2,362,471
Seeds—	Cwt.	Cwt.	Cwt.			
Clover and grass	426,475	316,043	300,939	869,388	651,576	615,920
Cotton	Tons. 463,653	Tons. 568,928	Tons. 624,767	2,587,499	2,978,520	3,716,567
Flax or linseed	Qrs. 2,785,983	Qrs. 1,924,008	Qrs. 1,588,100	4,502,064	3,541,333	3,274,988
Rape	809,325	181,326	118,140	386,420	286,073	284,639
Bones (whether burnt or not)	Tons. 35,103	Tons. 47,346	Tons. 42,607	153,373	209,918	194,683
Guano	24,376	29,223	24,906	117,753	188,906	127,719
Cotton, raw	Cwt. 17,454,397	Cwt. 19,074,980	Cwt. 17,923,049	54,697,788	52,182,656	55,749,640
Hemp	Tons. 132,425	Tons. 121,722	Tons. 117,325	4,121,755	3,755,587	3,712,167
Flax	74,917	90,098	87,365	3,125,475	3,581,806	3,558,567
Hides untanned—	Cwt.	Cwt.	Cwt.			
Dry	325,268	351,762	434,191	940,804	1,078,014	1,603,601
Wet	449,580	508,467	533,321	1,106,360	1,322,574	1,433,009
Petroleum	Gallons. 302,181,143	Gallons. 300,110,335	Gallons. 299,261,714	5,839,083	5,423,124	5,853,409

TABLE NO. 10.—QUANTITY AND VALUE OF DEAD MEAT imported into the United Kingdom in the undermentioned Years.

[From Trade and Navigation Returns.]

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
BACON, from—	Cwt.	Cwt.	Cwt.	£	£	£
Denmark	1,723,824	1,471,687	1,463,890	4,532,420	3,978,317	4,524,055
Canada	829,883	1,191,890	1,190,524	1,865,159	2,751,714	3,135,391
United States	2,806,108	2,765,283	2,775,919	6,209,009	5,838,392	6,859,061
Other countries	92,436	80,650	112,299	225,554	216,432	325,588
Total	5,452,311	5,498,960	5,542,622	12,832,142	12,774,855	14,644,095
BEAF (salted), from—						
United States	135,280	135,277	146,163	173,098	191,115	197,238
Other countries	9,024	7,529	15,200	14,190	11,192	20,709
Total	144,304	142,806	161,363	187,288	202,307	217,947
BEAF (fresh), from—						
United States	2,395,536	2,282,206	2,426,644	5,180,286	4,884,611	5,235,663
Argentine Republic	1,675,371	2,550,152	2,795,913	2,482,704	3,761,780	4,138,419
Australia	70,846	19,035	38,716	105,779	80,748	65,204
New Zealand	175,012	145,938	236,557	231,046	208,992	315,988
Other countries	27,567	60,500	81,269	58,526	105,462	46,996
Total	4,850,081	5,087,521	5,529,129	8,058,341	8,981,593	9,793,670
HAMS, from—						
Canada	196,732	392,173	254,494	485,527	698,463	674,469
United States	1,042,559	1,022,855	1,045,718	2,606,129	2,408,998	2,808,823
Other countries	4,612	8,274	2,539	13,543	9,916	8,302
Total	1,244,003	1,818,302	1,802,751	3,104,999	3,118,372	3,491,594
MEAT (unenumerated, salted or fresh), from—						
Holland	265,895	253,103	222,290	584,725	573,338	502,027
United States	132,539	164,063	189,323	210,624	255,921	262,128
Other countries	233,078	250,983	240,755	369,093	396,433	361,311
Total	631,012	670,144	652,368	1,164,442	1,225,692	1,145,466
MEAT, preserved otherwise than by salting—						
Beef	556,918	598,030	296,301	1,611,693	1,789,399	1,103,695
Mutton	25,877	30,111	48,443	85,458	77,112	125,944
Other sorts	220,233	204,888	142,678	761,440	780,684	593,022
Total	813,018	833,029	487,422	2,458,591	2,647,195	1,822,671
MUTTON (fresh), from—						
Netherlands	265,702	235,172	224,926	605,225	539,672	536,100
Australia	163,014	505,413	616,870	324,239	988,049	1,148,460
New Zealand	1,626,813	1,524,981	1,748,188	3,391,025	3,164,712	3,417,794
Argentine Republic	1,422,347	1,462,537	1,438,097	2,491,210	2,458,915	2,440,996
Other countries	16,776	82,966	55,608	49,832	185,142	112,193
Total	3,494,782	3,811,069	4,068,689	6,361,581	7,386,400	7,655,543
PORK (salted, not Bacon or Hams), from—						
United States	76,977	73,528	67,775	119,423	111,082	116,480
Other countries	166,865	183,437	183,281	174,657	141,534	150,320
Total	243,842	256,965	251,056	294,080	252,616	266,800
PORK (fresh), from—						
Netherlands	443,154	306,379	313,296	1,005,450	713,523	739,588
Belgium	32,798	39,844	13,225	83,061	97,439	32,744
United States	119,459	135,233	120,734	262,450	292,390	268,804
Other countries	10,274	24,677	39,916	27,806	59,018	89,814
Total	610,485	506,333	492,171	1,378,467	1,162,370	1,130,950
RABBITS (dead), from—						
Belgium	77,407	69,624	66,811	224,791	199,777	185,207
Australia	322,333	482,697	644,774	357,710	485,985	664,618
New Zealand	107,147	80,289	78,207	121,799	82,496	76,554
Other countries	26,311	23,466	18,764	76,487	67,721	54,407
Total	533,698	656,076	809,556	780,787	835,929	1,000,786
Total of dead meat	17,517,486	18,679,507	19,266,122	37,120,618	38,487,409	41,169,522

TABLE NO 11.—QUANTITIES AND VALUES OF BUTTER, MARGARINE, CHEESE, AND Eggs imported into the United Kingdom in each Year from 1904 to 1906 inclusive

[From Trade and Navigation Returns.]

	Quantities			Values		
	1904.	1905.	1906	1904.	1905	1906.
BUTTER from—	Cwt	Cwt.	Cwt	£	£	£
Russia . .	404,717	461,140	606,549	1,817,736	2,246,508	2,918,124
Sweden . .	206,791	188,209	182,803	1,062,353	1,021,603	1,086,638
Denmark . .	1,708,619	1,630,363	1,675,761	9,008,089	8,919,766	9,636,862
Germany . .	4,080	5,372	10,701	20,547	27,169	56,559
Netherlands .	262,262	209,897	195,866	1,225,768	1,047,690	998,396
France . .	371,061	348,442	319,401	1,961,094	1,860,545	1,775,601
New S Wales	159,622	168,531	180,655	747,876	848,022	957,702
Queensland .	59,475	54,183	77,982	270,231	269,077	404,980
Victoria . .	255,716	227,574	287,190	1,212,680	1,144,141	1,568,057
New Zealand .	294,982	300,418	311,672	1,394,455	1,467,628	1,626,997
Canada . .	288,607	292,117	192,093	1,194,823	1,428,494	982,064
United States	68,754	84,874	157,312	284,534	401,916	743,197
Other countries	186,319	176,741	140,898	911,946	904,068	761,075
Total .	4,241,005	4,147,866	4,338,383	21,117,162	21,586,622	23,466,252
MARGARINE from—	Cwt	Cwt	Cwt	£	£	£
Norway . .	5,667	6,731	5,291	14,081	16,153	12,504
Netherlands .	927,980	1,051,630	1,053,623	2,390,243	2,617,743	2,601,344
France . .	23,580	27,324	29,422	82,305	95,259	102,600
Other countries	3,051	2,574	8,626	7,838	6,581	17,447
Total .	960,278	1,088,259	1,101,962	2,494,467	2,735,736	2,733,795
CHEESE from—	Cwt.	Cwt	Cwt	£	£	£
Netherlands .	233,601	214,033	223,343	542,530	498,994	545,947
France . .	44,268	48,884	43,244	138,289	158,224	140,702
Australia . .	350			831		
New Zealand .	84,947	78,626	126,216	217,236	203,344	370,666
Canada . .	1,900,556	1,558,767	1,925,835	4,234,790	4,801,172	5,634,288
United States	224,830	175,256	233,425	508,312	445,008	656,705
Other countries	65,745	67,116	80,718	206,732	230,074	259,333
Total .	2,554,297	2,442,682	2,638,776	5,843,770	6,339,811	7,607,641
Eggs from—	Great Hundreds	Great Hundreds	Great Hundreds	£	£	£
Russia . .	7,032,906	7,622,393	7,132,928	2,042,520	2,426,029	2,344,256
Denmark . .	3,602,326	3,856,135	3,823,942	1,461,459	1,634,288	1,701,291
Germany . .	3,554,282	2,175,721	2,644,242	1,191,161	764,966	957,905
Belgium . .	2,517,073	2,152,953	2,444,746	837,120	830,598	992,103
France . .	1,698,614	1,565,572	1,491,269	710,057	660,369	622,119
Canada . .	317,722	260,140	281,719	129,631	114,557	106,393
Other countries	1,219,721	1,179,379	1,105,268	368,626	381,629	373,070
Total .	19,942,594	18,814,293	18,874,109	6,730,574	6,812,436	7,098,187

TABLE No. 12.—NUMBER OF LIVE STOCK IN 1903, 1904, AND 1905, returned as entering the Markets at the Places scheduled under the Markets and Fairs (Weighing of Cattle) Act, 1891.

[From Journal of the Board of Agriculture.]

	CATTLE.			SHEEP.			SWINE.		
	1903.	1904.	1905.	1903.	1904.	1905.	1903.	1904.	1905.
Aberdeen .	47,757	53,916	62,115	175,722	177,827	166,776	14,844	14,256	13,964
Dundee .	17,896	18,716	21,271	25,748	25,131	24,727	3,223	3,338	3,974
Edinburgh	71,926	72,078	77,949	269,310	269,614	237,438	10,054	8,309	7,370
Falkirk .	11,383	11,142	..	10,396	9,946	..	120	126	..
Glasgow .	60,550	57,000	64,832	348,496	327,302	330,369	5,450	5,836	3,491
Perth . .	55,642	60,208	115,688	247,880	257,784	465,587	13,921	13,175	13,280
	265,154	273,060	341,855	1,077,502	1,067,604	1,224,897	47,112	47,130	42,079

TABLE No. 13.—AVERAGE PRICES OF FAT CATTLE PER CWT. (LIVE WEIGHT) at the undermentioned Places in each Year from 1898 to 1905, together with the average Prices for Scotland, England, and Great Britain, compiled from the Returns received under the Markets and Fairs (Weighing of Cattle) Act, 1891.

	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Aberdeen . . .	31 0	32 10	34 3	32 10	34 9	33 4	32 8	32 6
Dundee . . .	31 10	33 0	34 7	33 6	34 11	33 3	32 7	32 0
Edinburgh . . .	32 9	34 9	36 5	35 3	37 4	35 5	34 10	33 10
Glasgow . . .	32 11	34 4	35 11	35 5	37 10	36 3	35 8	32 6
Perth . . .	32 9	34 7	37 7	36 9	37 4	35 1	33 3	34 4
SCOTLAND . . .	32 0	33 3	35 3	34 1	36 2	34 6	33 9	33 0
ENGLAND . . .	31 6	33 4	34 11	33 9	35 5	34 1	33 1	32 8
GREAT BRITAIN .	31 10	33 7	35 2	34 0	35 11	34 4	33 7	32 11

TABLE NO. 14.—NUMBER AND VALUE OF LIVE CATTLE, SHEEP, AND SWINE imported into the United Kingdom in the undermentioned Years. [*From Trade and Navigation Returns.*]

	Number.			Value.		
	1904.	1905.	1906.	1904.	1905.	1906.
CATTLE, from—				£	£	£
Channel Islands	1,684	1,515	1,639	28,921	25,817	29,880
Canada	146,599	148,718	160,689	2,547,453	2,491,150	2,765,440
United States	401,249	414,906	898,887	7,160,062	7,149,189	6,987,410
Argentine Republic . .	..	..	..	..	..	..
Other countries . . . .	..	..	..	..	..	..
Total	549,532	565,139	561,215	9,736,436	9,665,806	9,782,180
SHEEP AND LAMBS, from—						
Canada	77,385	28,240	14,296	124,799	45,580	22,228
United States	294,804	150,095	84,184	456,630	226,628	127,401
Argentine Republic . .	..	..	..	..	..	..
Other countries	9,601	4,749	4879	10,555	6,545	7818
Total	382,240	183,084	103,359	591,984	278,753	156,947
SWINE (not separately enumerated) }	..	150	..	..	800	..
TOTAL VALUE OF ANIMALS LIVING }	..	..	..	10,328,420	9,944,859	9,889,127

TABLE NO. 15.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS imported into Great Britain from Ireland in each of the Years 1900-1906.

	1900.	1901.	1902.	1903.	1904.	1905.	1906.
HORSES :—							
Stallions	108	194	222	265	285	302	257
Mares	16,320	11,467	11,143	12,867	12,909	14,192	15,316
Geldings	19,183	13,946	13,895	14,587	14,356	16,829	18,243
Total	35,606	25,607	25,260	27,719	27,500	30,723	33,816
CATTLE: Oxen, Bulls, and Cows :—							
Fat	275,450	261,690	306,892	246,887	232,186	224,943	240,566
Store	427,891	344,954	556,554	556,506	470,361	455,667	473,425
Other cattle	7,442	6,269	10,634	6,724	6,896	6,205	5,897
Calves	34,736	29,725	85,161	87,523	62,920	62,316	55,486
Total	745,519	642,638	959,241	897,645	772,363	749,131	775,874
SHEEP :—							
Sheep	478,081	484,516	599,319	444,762	372,159	350,953	298,174
Lambs	384,182	358,809	456,463	380,917	367,107	349,673	364,239
Total	862,263	843,325	1,055,802	825,679	739,266	700,626	662,413
PIGS :—							
Fat	673,847	559,232	603,108	541,601	473,922	362,791	409,510
Store	41,855	86,897	34,864	23,319	26,158	1,032	19,920
Total	715,702	646,129	637,972	564,920	500,080	363,823	429,430

EDINBURGH CORN-MARKET GRAIN TABLES for WHEAT, BARLEY, OATS, and BEANS, showing the Quantity offered for Sale, the Quantity Sold, the Highest, Lowest, and Average Prices; also the Bushel-weights of the Highest and Lowest Prices of each kind of Grain for every Market-day, likewise the Results for every Month, and the final Result for the year 1906.

WHEAT.

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for	
						Highest Price.	Lowest Price.
1906	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb. lb.	lb. lb.
Jan.							
3	453	308	30 3	28 6	29 7	63	61
10	517	517	30 3	27 0	29 3	63	60
17	1,103	1,003	30 3	26 0	29 7	63	59
24	1,287	1,039	30 9	28 6	29 8	63	60½
31	787	550	30 0	26 6	29 1	62 63	61
	4,147	3,527	30 3	27 6	29 6		
Feb.							
7	1,147	973	30 6	28 6	29 4	63	62
14	1,093	799	29 6	26 6	28 9	62 63	62
21	1,251	1,020	29 3	26 0	28 6	63	63
28	877	549	28 6	26 6	27 9	63	63
	4,868	3,341	29 2	27 8	28 8		
March							
7	570	483	29 0	25 0	27 10	63	60
14	527	487	29 6	22 6	28 1	65	56
21	515	435	29 3	27 0	28 3	63	62
28	207	207	29 6	26 0	28 11	63 63½	56
	1,819	1,662	29 5	25 10	28 2		
April							
4	351	351	30 3	27 0	29 1	63	59
11	204	169	30 3	28 6	29 10	63	62
18	1,056	1,036	31 3	29 0	30 3	63	63
25	988	983	30 6	27 0	30 2	63 63½	62
	2,599	2,544	30 8	28 9	30 0		
May							
2	1,696	1,436	32 0	28 0	30 4	65	62
9	1,978	1,843	31 3	26 6	30 4	65	56
16	2,003	2,003	31 0	28 9	30 2	63½ 64	62½
23	1,439	1,229	31 0	28 9	30 3	64	61
30	700	550	31 3	30 0	30 7	64	63
	7,816	7,111	31 3	28 9	30 3		
June							
6	999	938	30 9	29 6	30 5	63 64	63
13	645	560	31 0	28 6	30 7	63 63½	63
20	855	843	31 3	30 0	30 10	63	63
27	563	471	31 6	30 0	30 10	63	62 63
	3,062	2,812	30 11	29 8	30 8		
July							
4	681	656	31 3	30 3	30 10	63	63
11	159	29	32 0	28 0	31 5	64½	61½
18	91	20	31 6	..	31 6	63	..
25	635	245	31 6	30 9	31 0	63	63
	1,566	950	31 6	30 4	30 11		

WHEAT—continued.

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel- weights for	
						Highest Price.	Lowest Price.
1906 Aug.	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb. lb.	lb. lb.
1	538	708	31 6	30 6	31 0	63	63
8	880	440	31 0	29 0	30 1	63	60½
15	500	240	30 6	26 0	30 1	63	60
22	469	250	31 0	29 6	30 2	63½	62
29	523	170	30 9	29 6	30 1	63	63
	3,070	1,808	31 0	29 7	30 5		
Sept.							
5	161	72	30 6	25 0	28 6	63	60
12	183	88	27 6	25 0	28 1	63	61
19	414	506	29 6	21 0	25 9	63	56
26	743						
	1,501	666	28 10	22 10	25 11		
Oct.							
3	785	480	29 0	24 0	28 9	63	60
10	921	592	29 0	25 0	28 6	63	61
17	910	412	29 0	24 0	28 11	63	61½
24	1,190	459	30 0	23 0	28 10	63	56
31	986	539	30 0	24 0	28 7	63	59½ 60
	4,692	2,492	29 5	24 6	26 8		
Nov.							
7	855	392	30 0	25 6	27 0	63	60½
14	771	494	30 0	24 0	26 11	63	60½
21	831	508	30 0	24 6	26 9	63	58½
28	773	387	30 0	23 3	27 5	63	60
	3,230	1,781	30 0	25 1	27 0		
Dec.							
5	424	196	28 6	23 3	26 6	63	58½
12	543	324	29 0	23 6	27 1	63	55
19	655	515	27 6	24 6	26 8	63	62
26	521	435	28 0	25 0	26 11	63	60
	2,148	1,370	28 1	23 11	26 10		
Result for year	40,013	30,064	30 4	27 7	29 2		

BARLEY.

1906 Jan.							
3	1,530	923	29 0	23 6	26 10	56	49½
10	1,436	837	30 0	24 0	27 1	57½	55
17	1,332	1,002	30 6	24 0	27 2	56	54
24	1,723	1,164	29 0	24 6	26 9	56½	56
31	1,103	668	29 6	23 0	27 1	56	50½
	7,129	4,594	29 5	23 11	27 0		
Feb.							
7	1,731	1,014	30 0	24 9	26 11	56	56
14	2,019	833	23 6	24 6	26 10	56	51½
21	1,594	589	30 0	24 0	26 10	56	54
28	1,189	622	28 6	24 0	26 5	55 56	55
	6,533	3,063	28 11	24 6	26 9		

BARLEY—continued.

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for	
						Highest Price.	Lowest Price.
1906	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb. lb.	lb. lb.
March							
7	1,828	627	30 6	25 6	27 9	56	55 56
14	1,098	511	30 0	24 6	26 11	56	55
21	862	385	32 0	25 6	27 1	56	54
28	566	331	30 10	25 6	26 6	56	55
	4,354	1,854	30 9	25 5	27 2		
April							
4	582	305	28 0	19 0	25 10	56	52 1/2
11	286	85	26 6	26 0	26 3	56	56
18	459	161	26 0	22 0	25 0	56	54
25	302	151	26 6	24 6	25 10	56	52
	1,629	702	26 4	23 5	25 8		
May							
2	186	40	26 0	24 9	25 5	57	56
9	271	19	26 0	25 6	25 9	56	56
16	91	9	24 6	..	24 6	54	..
23	116	24	26 8	24 0	25 4	56	54
30	40	..	..	..	..	..	..
	704	92	25 10	24 9	25 4		
June							
6	20	20	25 6	..	25 6	56	..
13	75	..	..	..	..	..	..
20	70	..	..	..	..	..	..
27	..	..	..	..	..	..	..
	165	20	25 6	..	25 6		
July							
4	90	20	26 3	..	26 3	56	..
11	70	..	..	..	..	..	..
18	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..
	160	20	26 3	..	26 3		
Aug.							
1	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..
22	80	30	26 6	..	26 6	54	..
29	75	20	27 0	..	27 0	56	..
	155	50	26 8	..	26 8		
Sept.							
5	1,965	845	27 0	24 6	25 2	56	55 56
12	2,360	1,740	26 6	20 6	24 7	56	52 1/2
19	1,674	1,308	27 0	19 6	24 2	56	51 1/2
26	2,954	2,509	26 6	22 0	24 8	54 1/2 56	53 1/2 53 1/2
	8,353	6,202	26 6	22 5	24 7		
Oct.							
3	2,332	1,566	26 0	22 3	24 5	55 1/2 55	53 1/2 53 1/2
10	2,211	1,388	26 0	22 0	24 5	55 1/2 56	53 1/2 55
17	1,547	482	27 3	21 9	24 7	55 1/2	52
24	1,258	1,155	27 6	22 0	24 8	56	50 53 1/2
31	1,266	1,121	26 6	23 1 1/2	24 7	56	54
	8,509	5,615	26 6	22 2	24 6		

BARLEY—continued.

Date.	Quantity offered for Sale.	Quantity Sold	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for			
						Highest Price.		Lowest Price.	
1906	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb.	lb.	lb.	lb.
Nov. 7	1,018	888	27 8	22 9	25 5	56		58	
14	1,861	998	27 0	23 6	24 11	56	55	55½	
21	1,784	1,091	26 8	21 3	24 4	56		50	
28	1,617	1,021	27 0	20 0	25 2	56		51½	
	5,780	3,948	26 10	22 1	24 11				
Dec. 5	1,800	1,486	27 0	22 6	24 10	56	58	55	
12	1,766	1,805	27 0	21 6	25 0	55½		53½	
19	1,695	886	26 6	22 0	24 6	56		55	
26	1,019	867	26 6	28 0	24 8	56		54	
	6,280	4,044	26 9	22 5	24 9				
Result for year	49,701	30,204	27 8	23 0	25 5				

OATS.

1906							
Jan. 8	2,208	1,327	23 0	18 9	20 7	44½	42
10	3,197	2,248	23 8	18 8	20 4	44	42
17	2,761	1,472	23 6	19 0	20 7	44½	42
24	3,698	1,637	25 0	18 6	19 11	44½	42
31	2,923	1,522	26 0	17 0	20 5	44½	42
	14,787	8,201	24 8	18 8	20 4		
Feb. 7	3,413	2,222	26 0	17 0	20 5	44½	42
14	3,688	2,041	26 6	17 0	20 1	44½	40
21	3,669	1,458	25 0	17 6	20 7	44½	42
28	4,165	1,623	24 0	18 6	20 7	44½	42
	14,885	7,844	25 6	17 10	20 5		
March 7	3,007	1,727	25 6	18 8	21 6	45½	42
14	2,984	1,294	25 0	18 0	21 5	44½	42
21	2,019	1,086	23 9	18 0	20 10	44½	42
28	1,700	668	23 9	19 0	20 11	48	42
	9,660	4,770	24 10	18 6	21 8		
April 4	1,151	647	24 0	19 6	21 6	44½	42
11	1,747	1,147	24 0	20 8	21 11	44½	42
18	2,067	982	23 6	20 0	22 1	44½	42
25	1,742	996	23 8	20 0	22 3	44½ 46	42
	6,707	3,772	23 6	19 11	22 0		
May 2	1,734	1,012	23 6	19 0	21 10	44½	40
9	1,812	750	23 6	21 0	22 4	44½	42½ 48
16	2,271	1,084	22 9	20 6	21 7	44½	42
23	1,904	549	23 0	20 6	22 0	44½	42 43
30	1,748	660	23 0	20 8	21 10	44½	42
	9,469	4,005	23 2	20 6	21 11		

OATS—continued.

Date	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel- weights for			
						Highest Price.		Lowest Price.	
	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb.	lb.	lb.	lb.
1906									
June									
6	1,095	598	23 0	20 0	21 11	44½		42	
13	1,087	554	23 0	21 3	22 1	45½		42	42½
20	881	451	23 3	21 0	22 6	44		42	
27	942	542	23 3	21 0	22 3	44½		42	43
	4,005	2,145	23 1	20 8	22 2				
July									
4	900	480	23 6	20 6	21 11	44½	44½	42	
11	808	473	23 6	18 6	22 0	44½		40	
18	809	390	24 0	18 6	22 4	44½		42	
25	1,167	577	24 0	20 9	22 8	44½		42	
	3,684	2,020	23 8	20 3	22 3				
Aug									
1	902	482	24 0	21 6	23 4	44½		42	
8	804	302	24 0	21 6	23 1	44½		42	
15	1,682	627	24 0	21 0	22 3	44		42	
22	990	484	24 0	21 6	22 10	44½		42	
29	626	241	23 6	21 0	22 6	44½		42½	
	5,000	2,086	23 11	21 3	22 9				
Sept									
5	2,094	1,594	23 6	19 6	21 8	44	44½	42	
12	2,052	1,603	22 6	17 0	20 9	44		41	
19	1,580	1,399	22 6	17 9	20 2	44		42	
26	1,485	1,255	22 6	17 0	20 2	44		40	42
	7,217	5,851	22 9	18 0	20 9				
Oct.									
3	1,724	1,342	22 6	18 6	19 11	44		41	
10	1,320	859	22 6	17 0	19 5	44		42	
17	1,394	984	22 0	17 0	20 0	44½		41½	
24	1,120	913	22 0	19 0	20 1	44½		42	
31	1,360	1,110	23 0	18 0	20 3	44½		42	
	6,828	5,210	22 6	18 2	19 11				
Nov.									
7	1,978	1,296	22 6	16 0	20 1	44	44	41	
14	2,054	1,883	23 0	17 9	20 1	44½		41	
21	2,088	1,804	23 0	18 9	20 4	44½		42	42½
28	2,050	1,030	21 9	17 6	19 8	45		42½	
	8,170	5,013	22 7	17 7	20 1				
Dec.									
5	2,147	1,297	22 0	17 6	19 3	44½		42	
12	2,057	1,477	22 0	17 9	20 3	45½		42	
19	2,181	1,313	21 6	17 6	19 8	45½		42½	
26	1,210	890	21 0	17 9	19 4	44	44½	42	
	7,595	4,977	21 7	17 7	19 10				
Result for year	98,007	55,394	23 4	19 2	20 10				

BEANS.

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel- weights for	
						Highest Price.	Lowest Price.
1906							
Jan.	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb. lb.	lb. lb.
8	20	..	..	..	..	..	..
10	52	52	34 0	..	34 0	65½	..
17	..	..	..	..	..	..	..
24	85	25	34 6	..	34 6	65½	..
31	11	11	32 6	..	32 6	62½	..
	118	88	33 11	..	33 11		
Feb.							
7	40	..	..	..	..	..	..
14	85	15	34 0	..	34 0	65½	..
21	80	..	..	..	..	..	..
28	95	23	35 0	33 6	34 0	65½	65½
	210	38	34 4	33 6	34 0		
March							
7	104	34	35 0	..	35 0	65½	..
14	..	..	..	..	..	..	..
21	13	..	..	..	..	..	..
28	..	..	..	..	..	..	..
	117	34	35 0	..	35 0		
April							
4	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..

May							
2	12	..	..	..	..	..	..
9	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..
30	..	..	..	..	..	..	..
	12	..	..	..	..
June							
6	..	..	..	..	..	..	..
13	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..
27	..	..	..	..	..	..	..
		
July							
4	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..
		
Aug.							
1	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..
		

BEANS—continued.

Date	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel- weights for	
						Highest Price.	Lowest Price.
1906							
Sept.	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb. lb.	lb. lb.
5	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..
26	..	..	..	..	..	..	..
	-	..	-		
Oct.							
3	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..
31	..	..	..	..	..	..	..
	..	-	-		
Nov.							
7			..	..	..	..	..
14		..	..	..	..	..	..
21		..	..	..	..	..	..
28		..	..	..	..	..	..
	-	-		
Dec.							
5		..	..	..	..	..	..
12		..	..	..	..	..	..
19		..	..	..	..	..	..
26	40	..	..	..	..	..	..
	40	..	..	..	..
Result for year	537	160	34 3	33 6	34 2		

PRICES OF SHEEP SINCE 1818.

TABLE No. 1.—CHEVIOT SHEEP.

Year.	Wethers.				Ewes.				Lambs.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1818	28	0	to	30	0	not quoted.			8	0	to	10
1819	25	0	"	27	0	15	0	to	10	6	to	12
1820	20	0	"	25	0	16	0	"	17	0	"	11
1821	18	0	"	20	0	14	0	"	16	0	"	8
1822	12	6	"	13	0	8	0	"	8	6	"	0
1823	18	6	"	18	0	7	0	"	10	6	"	6
1824	14	0	"	19	0	7	0	"	9	0	"	6
1825	29	0	"	32	0	15	0	"	19	0	"	10
1826	17	6	"	21	6	18	0	"	15	0	"	7
1827	15	0	"	24	0	not quoted.			7	0	"	8
1828	18	0	"	27	6	12	0	to	15	0	"	8
1829	18	0	"	24	0	12	6	"	14	0	"	8
1830	15	0	"	21	0	8	0	"	11	0	"	6
1831	18	0	"	25	0	9	0	"	13	0	"	8
1832	19	0	"	24	0	11	0	"	16	0	"	9
1833	22	0	"	31	0	13	6	"	20	0	"	11
1834	22	0	"	31	0	13	6	"	21	0	"	11
1835	22	0	"	27	6	18	0	"	20	6	"	11
1836	24	0	"	31	6	16	0	"	19	0	"	14
1837	19	0	"	28	0	14	0	"	19	0	"	13
1838	23	0	"	30	6	17	0	"	22	0	"	14
1839	23	0	"	31	0	14	0	"	19	0	"	13
1840	24	0	"	33	0	15	0	"	23	0	"	11
1841	23	0	"	30	0	14	0	"	22	0	"	12
1842	22	6	"	28	0	13	0	"	17	0	"	10
1843	19	0	"	25	0	8	0	"	12	0	"	8
1844	21	0	"	29	0	10	0	"	16	0	"	10
1845	23	0	"	33	0	13	0	"	20	0	"	13
1846	24	0	"	33	6	14	6	"	21	6	"	14
1847	24	0	"	35	0	13	0	"	24	0	"	15
1848	25	0	"	34	6	13	0	"	28	0	"	15
1849	21	0	"	30	2	12	0	"	21	0	"	14
1850	20	6	"	29	6	12	0	"	20	0	"	13
1851	21	6	"	31	0	13	0	"	21	0	"	14
1852	21	0	"	32	0	15	0	"	23	0	"	14
1853	26	6	"	38	0	17	0	"	28	6	"	17
1854	25	0	"	36	0	17	0	"	26	0	"	16
1855	23	6	"	36	0	16	0	"	25	0	"	17
1856	22	0	"	35	6	15	6	"	24	0	"	15
1857	24	0	"	36	0	14	6	"	26	0	"	14
1858	24	0	"	34	6	14	0	"	24	6	"	14
1859	25	0	"	34	6	16	0	"	25	0	"	14
1860	26	0	"	38	0	17	6	"	27	6	"	17
1861	25	0	"	38	6	16	0	"	28	0	"	16
1862	27	0	"	37	6	17	6	"	28	0	"	16
1863	25	0	"	38	6	19	0	"	28	6	"	16
1864	31	0	"	41	0	21	0	"	31	6	"	18
1865	32	6	"	44	0	22	6	"	33	6	"	20
1866	37	0	"	50	0	29	0	"	42	6	"	26
1867	26	0	"	58	0	18	0	"	25	6	"	16
1868	30	0	"	32	0	15	6	"	21	0	"	13
1869	28	0	"	38	0	15	0	"	23	6	"	14
1870	35	6	"	48	0	18	0	"	28	0	"	17
1871	36	6	"	49	0	22	0	"	33	6	"	20
1872	45	0	"	56	0	32	0	"	42	0	"	22
1873	42	0	"	51	0	25	0	"	42	0	"	22
1874	33	6	"	44	6	21	0	"	36	0	"	17
1875	33	0	"	48	6	21	0	"	34	0	"	23
1876	40	0	"	52	6	23	0	"	30	0	"	25
1877	41	0	"	51	0	25	0	"	37	0	"	24
1878	35	6	"	48	0	28	6	"	35	0	"	22
1879	34	0	"	44	0	21	0	"	34	0	"	20
1880	30	0	"	43	6	20	0	"	30	0	"	20
1881	32	0	"	45	6	29	0	"	34	0	"	20
1882	40	0	"	51	0	30	0	"	40	0	"	20
1883	44	0	"	55	6	34	6	"	46	6	"	23
1884	36	0	"	47	6	29	6	"	41	6	"	20
1885	30	0	"	38	0	24	0	"	31	0	"	18

TABLE NO. 1.—CHEVIOT SHEEP—Continued.

Year.	Wethers				Ewes.				Lambs						
	s.	d.		d.	s	d		d	s	d		d.			
1886	32	0	to	40	0	21	0	to	29	0	12	6	to	19	0
1887	29	0	"	36	0	18	0	"	26	0	11	0	"	16	6
1888	30	0	"	38	0	19	0	"	27	0	12	0	"	17	6
1889	36	0	"	44	0	24	0	"	32	0	14	0	"	22	0
1890	31	0	"	40	0	22	0	"	30	0	12	6	"	20	0
1891	27	0	"	38	0	16	0	"	25	0	9	0	"	16	0
1892	22	0	"	30	6	13	0	"	22	0	5	0	"	11	0
1893	26	0	"	35	6	18	0	"	28	6	8	6	"	15	0
1894	26	0	"	37	0	20	0	"	31	0	10	6	"	18	6
1895	28	0	"	39	0	22	0	"	34	0	11	6	"	19	6
1896	24	6	"	34	0	19	0	"	30	6	9	0	"	16	6
1897	27	0	"	36	0	21	0	"	31	6	11	0	"	17	6
1898	27	0	"	37	0	22	0	"	32	6	12	0	"	18	6
1899	24	0	"	33	0	20	0	"	30	6	10	6	"	16	0
1900	26	0	"	36	0	22	0	"	32	6	12	0	"	17	0
1901	25	0	"	32	6	20	0	"	29	6	11	0	"	16	0
1902	24	0	"	31	6	18	0	"	27	0	9	6	"	14	6
1903	26	0	"	34	0	21	0	"	31	0	11	4	"	18	0
1904	28	6	"	36	6	23	0	"	32	6	13	0	"	20	0
1905	27	6	"	35	0	23	0	"	33	0	14	0	"	21	0
1906	30	0	"	38	0	26	0	"	34	6	15	0	"	23	0

TABLE NO. 2.—BLACKFACED SHEEP.

Year.	Wethers.				Ewes.				Lambs.						
	s.	d.		s.	d.	s.	d.		s.	d.	s.	d.		s.	d.
1819	22	0	to	24	0	12	0	to	15	0	8	0	to	9	0
1820	20	0	"	23	3	15	6	"	17	0	7	0	"	8	6
1821	18	0	"	20	0	12	0	"	13	0	6	0	"	7	0
1822	11	6	"	13	6	5	6	"	6	0	4	6	"	0	0
1823	12	0	"	16	0	5	0	"	6	6	4	0	"	5	3
1824	9	6	"	13	6	6	0	"	7	0	4	0	"	5	0
1825	22	0	"	26	0	11	0	"	13	6	6	0	"	9	0
1826	15	0	"	17	0	8	0	"	9	0	4	6	"	6	0
1827	14	0	"	18	6	7	0	"	10	0	6	0	"	7	6
1828	15	0	"	20	0	8	0	"	11	0	5	0	"	7	6
1829	14	0	"	18	0	9	0	"	10	0	6	0	"	7	0
1830	9	6	"	13	0	4	0	"	6	0	4	6	"	6	0
1831	13	0	"	17	0	5	0	"	7	6	5	0	"	6	6
1832	14	0	"	18	0	7	0	"	11	6	6	0	"	7	8
1833	16	0	"	24	0	7	6	"	12	0	6	6	"	9	0
1834	16	0	"	22	0	10	0	"	13	0	6	0	"	8	6
1835	15	0	"	18	9	10	0	"	13	0	7	0	"	8	0
1836	15	0	"	21	0	9	0	"	12	0	8	6	"	11	0
1837	13	0	"	16	0	8	0	"	12	0	8	0	"	9	6
1838	15	0	"	20	6	10	0	"	13	0	not quoted				
1839	15	0	"	22	0	10	0	"	12	0	7	0	to	8	3
1840	15	0	"	22	6	11	0	"	12	0	7	0	"	9	3
1841	16	0	"	20	0	9	0	"	11	0	6	0	"	8	0
1842	14	0	"	19	0	7	6	"	8	0	5	6	"	7	0
1843	not quoted.				4	9	"	6	6	not quoted.					
1844	15	0	to	21	0	6	6	"	10	0	5	0	to	8	0
1845	14	0	"	23	0	8	0	"	12	0	6	0	"	8	0
1846	13	0	"	24	0	10	0	"	13	0	8	0	"	9	0
1847	20	6	"	25	0	10	0	"	14	9	8	6	"	9	6
1848	20	0	"	24	0	11	3	"	12	0	8	6	"	10	0
1849	not quoted.				not quoted				not quoted						
1850	not quoted.				not quoted				not quoted						
1851	17	6	to	23	0	9	0	to	12	0	6	6	"	8	0
1852	18	6	"	22	0	9	6	"	12	0	4	6	"	7	9
1853	23	0	"	27	0	14	6	"	16	6	8	0	"	11	6
1854	20	0	"	26	0	11	0	"	16	6	8	0	"	10	6
1855	23	6	"	26	6	14	0	"	16	0	10	0	"	11	0
1856	17	0	"	24	0	10	0	"	30	0	7	6	"	10	0
1857	20	0	"	29	0	10	6	"	15	0	9	3	"	11	0
1858	20	0	"	27	6	9	9	"	18	9	8	3	"	10	6
1859	20	0	"	25	0	10	0	"	14	0	8	9	"	11	0
1860	21	0	"	27	3	11	0	"	16	0	10	0	"	13	6
1861	21	0	"	29	0	12	0	"	22	0	6	3	"	14	0
1862	16	9	"	27	0	12	0	"	18	8	6	0	"	12	0

TABLE NO. 2.—BLACKFACED SHEEP—Continued.

Year.	Wethers.		Ewes.		Lambs.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1863	20 0 to	30 6	13 0 to	16 0	8 0 to	11 6
1864	25 0 "	30 0	15 0 "	19 0	10 0 "	13 6
1865	15 6 "	32 6	15 0 "	25 0	10 0 "	17 0
1866	31 6 "	40 0	20 0 "	36 0	13 6 "	22 6
1867	20 0 "	30 6	14 0 "	22 0	7 6 "	13 6
1868	20 0 "	26 0	10 6 "	13 6	7 0 "	13 0
1869	22 0 "	28 0	11 0 "	14 0	6 9 "	9 0
1870	27 0 "	32 6	13 0 "	22 0	8 0 "	14 6
1871	28 0 "	37 0	13 0 "	23 0	11 0 "	16 8
1872	31 6 "	45 0	18 0 "	32 0	12 6 "	18 0
1873	28 0 "	39 0	16 6 "	27 0	7 0 "	16 0
1874	25 0 "	35 0	13 0 "	20 0	7 0 "	14 0
1875	26 6 "	37 6	15 0 "	21 3	9 6 "	17 6
1876	30 0 "	40 0	19 0 "	24 0	13 0 "	20 6
1877	35 0 "	38 9	18 0 "	25 0	13 6 "	23 0
1878	30 0 "	36 0	17 0 "	23 0	12 0 "	22 0
1879	25 0 "	35 9	16 0 "	24 0	10 6 "	20 0
1880	25 0 "	38 0	16 6 "	22 6	10 0 "	17 0
1881	30 0 "	39 0	15 0 "	23 0	10 0 "	15 0
1882	33 0 "	46 0	20 0 "	28 0	12 6 "	18 6
1883	36 0 "	50 6	24 6 "	33 0	14 0 "	21 6
1884	29 0 "	43 6	19 6 "	28 0	12 0 "	19 6
1885	24 0 "	34 0	13 0 "	22 6	10 0 "	15 0
1886	25 0 "	34 0	12 0 "	22 0	10 6 "	16 0
1887	22 0 "	30 0	11 0 "	19 0	8 0 "	13 0
1888	22 0 "	32 0	13 0 "	24 0	10 0 "	15 0
1889	26 0 "	40 0	13 0 "	29 0	13 0 "	22 0
1890	24 0 "	37 0	14 0 "	27 0	10 6 "	19 0
1891	21 0 "	37 0	10 0 "	24 0	7 6 "	15 0
1892	16 0 "	28 6	6 0 "	17 6	8 0 "	10 0
1893	21 0 "	37 0	12 0 "	24 0	7 0 "	14 6
1894	20 0 "	37 6	14 6 "	26 6	8 6 "	16 0
1895	23 0 "	41 0	16 0 "	28 6	9 0 "	17 0
1896	19 0 "	35 4	13 0 "	24 0	6 0 "	13 6
1897	21 0 "	36 6	15 0 "	25 6	7 0 "	14 6
1898	22 0 "	37 0	16 0 "	26 6	8 0 "	15 0
1899	20 0 "	33 6	13 0 "	24 0	5 6 "	13 0
1900	23 0 "	36 0	16 0 "	26 6	8 0 "	15 6
1901	20 0 "	35 0	14 0 "	25 6	6 6 "	14 6
1902	18 6 "	34 0	12 0 "	24 0	6 0 "	14 0
1903	21 0 "	36 0	15 0 "	28 0	7 0 "	16 6
1904	23 0 "	38 6	18 0 "	30 0	8 6 "	17 6
1905	21 6 "	37 0	19 0 "	31 0	9 0 "	18 6
1906	23 0 "	38 0	20 0 "	33 0	10 0 "	19 6

TABLE NO. 3.—PRICE OF WOOL, PER STONE OF 24 LB., SINCE 1818.

Year.	Laid Cheviot.		White Cheviot.		Laid Highland.		White Highland.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1818	40 0 to	42 2	..	..	20 0 to	22 6	..	..
1819	21 0 "	22 0	..	..	10 0 "	10 3	..	..
1820	20 0 "	22 0	..	..	9 0 "	10 0	..	..
1821	18 0 "	20 0	..	..	9 0 "	10 0	..	..
1822	12 6 "	14 6	..	..	5 0 "	6 6	..	..
1823	9 0 "	10 6	..	..	5 0 "	5 9	..	..
1824	13 6 "	15 0	..	..	6 0 "	6 3	..	..
1825	10 6 "	22 0	..	..	10 0 "	10 6	..	..
1826	11 0 "	14 0	..	..	5 6 "	5 6	..	..
1827	11 0 "	14 0	..	..	5 6 "	5 9	..	..
1828	8 0 "	11 0	..	..	5 6 "	6 0	..	..
1829	8 6 "	11 0	..	..	4 3 "	0 0	..	..
1830	9 6 "	11 0	..	..	4 6 "	5 0	..	..
1831	17 0 "	20 0	..	..	7 6 "	8 6	..	..
1832	14 0 "	16 0	..	..	7 0 "	7 6	..	..
1833	18 0 "	20 7	..	..	10 0 "	11 0	..	..
1834	21 0 "	24 6	..	..	5 6 "	7 0	..	..
1835	19 0 "	20 6	..	..	9 6 "	10 8	..	..
1836	21 0 "	25 0	..	..	10 0 "	14 0	..	..

TABLE No. 3.—PRICE OF WOOL—Continued.

Year.	Laid Cheviot.		White Cheviot.		Laid Highland.		White Highland.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1837	12 0	to 14 0	..	..	7 0	to 7 8	..	..
1838	19 0	" 22 6	..	..	6 0	" 10 0	..	..
1839	18 0	" 20 0	..	..	8 0	" 12 0	..	..
1840	15 0	" 0 0	..	..	7 0	" 0 0	..	..
1841	15 0	" 16 9	..	..	6 0	" 7 5	..	..
1842	13 6	" 14 0	..	..	not quoted.	..	..	..
1843	9 0	" 11 6	..	..	5 0	to 6 0	..	..
1844	15 0	" 18 0	..	..	not quoted.	..	..	..
1845	14 6	" 17 6	..	..	7 6	to 8 6	..	..
1846	12 0	" 14 6	..	..	8 0	" 8 6	..	..
1847	12 6	" 14 0	..	..	not quoted.	..	..	..
1848	9 6	" 11 0	..	..	4 9	to 0 0	..	..
1849	12 0	" 16 6	..	..	6 0	" 6 8	..	..
1850	15 0	" 17 6	..	..	8 0	" 8 6	..	..
1851	12 0	" 16 0	..	..	8 0	" 9 8	..	..
1852	13 0	" 15 0	..	..	8 0	" 9 0	..	..
1853	19 0	" 22 0	..	..	11 0	" 12 6	..	..
1854	12 0	" 15 0	..	..	7 6	" 8 6	..	..
1855	14 6	" 19 0	..	..	8 6	" 9 0	..	..
1856	19 0	" 21 6	..	..	11 0	" 0 0	..	..
1857	19 0	" 24 0	..	..	13 0	" 14 3	..	..
1858	15 0	" 17 0	..	..	8 9	" 10 0	..	..
1859	18 6	" 24 0	..	..	10 9	" 11 6	..	..
1860	22 0	" 32 0	37 0	to 38 0	10 0	" 11 3	..	..
1861	19 6	" 27 0	from 30s. upwards	..	not quoted.	..	..	..
1862	18 6	" 26 0	30 0	to 37 0	11 6	to 16 0	..	..
1863	25 6	" 31 0	38 0	" 42 0	15 3	" 17 6	..	..
1864	31 0	" 39 0	47 0	" 54 0	17 6	" 20 0	..	..
1865	23 0	" 30 0	44 0	" 45 0	15 0	" 17 0	..	..
1866	24 0	" 30 0	50 0	" 38 0	14 0	" 16 0	..	..
1867	16 0	" 21 6	not quoted.	..	not quoted.	..	..	..
1868	19 0	" 26 0	28 0	to 32 0	8 6	to 9 0	..	..
1869	18 0	" 26 6	not quoted.	..	8 6	" 10 0	..	..
1870	15 0	" 23 6	25 0	to 26 0	9 6	" 0 0	..	..
1871	20 0	" 26 6	30 0	" 34 6	12 0	" 15 0	..	..
1872	26 0	" 37 6	40 0	" 48 0	18 0	" 21 0	..	..
1873	17 0	" 18 0	34 0	" 40 0	9 0	" 12 0	..	..
1874	18 6	" 26 6	30 0	" 34 0	9 6	" 18 0	..	..
1875	25 0	" 32 0	34 6	" 36 0	12 6	" 16 0	..	..
1876	20 0	" 24 0	30 0	" 34 6	9 6	" 12 0	..	..
1877	20 9	" 26 0	23 0	" 30 0	10 0	" 12 0	..	..
1878	18 9	" 25 0	27 0	" 32 0	8 6	" 11 6	..	..
1879	15 0	" 17 0	prices very low.	..	7 0	" 0 0	..	..
1880	20 0	" 24 0	30 0	to 32 0	10 6	" 11 6	14 0	to 15 0
1881	17 0	" 21 0	27 0	" 30 0	5 0	" 9 6	12 0	" 13 0
1882	14 0	" 18 0	27 6	" 28 0	7 6	" 9 0	13 0	" 14 0
1883	18 0	" 18 0	26 0	" 28 0	6 6	" 8 6	11 6	" 12 6
1884	13 0	" 18 0	26 0	" 28 0	6 6	" 8 6	11 6	" 12 6
1885	12 0	" 17 0	22 6	" 26 0	6 0	" 8 0	11 6	" 12 0
1886	13 0	" 18 0	23 0	" 27 6	6 6	" 8 6	11 6	" 13 0
1887	14 0	" 22 0	23 0	" 28 0	7 0	" 9 0	11 6	" 13 0
1888	13 0	" 30 0	23 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1889	13 0	" 18 0	24 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1890	13 0	" 18 0	24 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1891	12 6	" 18 0	22 0	" 28 0	7 0	" 9 0	11 0	" 12 6
1892	13 0	" 18 0	20 6	" 28 0	7 0	" 8 6	10 6	" 12 0
1893	12 0	" 17 0	20 0	" 27 0	7 0	" 8 0	10 0	" 12 0
1894	12 0	" 16 0	20 0	" 26 0	7 0	" 8 0	10 0	" 12 0
1895	12 0	" 16 0	20 0	" 25 0	7 0	" 8 0	10 0	" 11 6
1896	11 0	" 15 0	19 0	" 24 0	7 0	" 8 0	10 0	" 11 6
1897	11 0	" 14 0	18 0	" 23 0	7 0	" 8 0	10 6	" 12 0
1898	10 0	" 18 0	16 0	" 20 0	7 0	" 8 0	10 0	" 11 6
1899	10 0	" 13 0	13 0	" 18 6	7 0	" 8 0	9 6	" 9 6
1900	9 9	" 12 0	13 0	" 18 6	6 9	" 7 9	8 0	" 9 6
1901	9 0	" 10 0	11 0	" 16 6	5 9	" 6 6	8 0	" 9 0
1902	9 0	" 10 0	11 6	" 17 0	6 0	" 6 6	8 6	" 9 6
1903	10 0	" 12 0	15 0	" 18 0	7 0	" 8 0	11 6	" 12 6
1904	15 0	" 17 0	20 0	" 21 0	9 0	" 10 0	14 0	" 15 0
1905	17 0	" 20 0	24 0	" 26 0	10 0	" 11 0	15 0	" 16 0
1906	18 0	" 21 0	27 0	" 28 6	11 6	" 13 0	16 6	" 17 6

GENERAL SHOW AT PEEBLES, 1906.

THE Peebles Show was in every way gratifying to the Society. Thanks mainly to enthusiastic support from the people of the district, the financial results of the Show far exceeded the most sanguine expectations. The weather was only moderately favourable, yet the attendance of the public was comparatively large. The drawings at the Show amounted to £2595, while the local fund raised in aid of the Show reached the handsome total of £1489. The net result was that the receipts exceeded the outlays by £416.

A beautiful and convenient site was provided in the Victoria Park and Kingsmeadows Park, the use of both being given free of charge, the former by the town of Peebles and the latter by Sir Duncan E. Hay of Haystoun, Bart.

The show of live stock was highly creditable to breeders of pure-bred live stock in Scotland. In almost every section the standard of merit was high. There was likewise a large and representative collection of modern implements and machines.

Statistics.

The following tables give the number of entries in the various sections :—

1. CATTLE.

Class.	SHORTHORN.	No. of Entries.
1. Aged bulls . . .		11
2. Two-year-old bulls		12
3. One-year-old bulls .		13
4. Cows of any age . .		6
5. Two-year-old heifers		7
6. One-year-old heifers		20
ABERDEEN-ANGUS.		
7. Aged bulls . . .		
8. Two-year-old bulls		
9. One-year-old bulls .		
10. Cows of any age . .		
Extra Stock . . .		
11. Two-year-old heifers		11
12. One-year-old heifers		— 46
GALLOWAY.		
13. Aged bulls . . .		6
14. Two-year-old bulls		4
15. One-year-old bulls .		1
16. Cows of any age . .		9
17. Two-year-old heifers		8
18. One-year-old heifers		9
		— 44

HIGHLAND.

19. Aged bulls	7
20. Two-year-old bulls	4
21. One-year-old bulls	9
22. Cows of any age	10
23. Three-year-old heifers	10
24. Two-year-old heifers	12
—	52

AYRESHIRE.

25. Aged bulls	3
26. Two-year-old bulls	2
27. One-year-old bulls	4
28. Cows in milk, calved before 1903	9
29. Cows in milk, calved after 1st January 1903	9
30. Cows of any age, in calf, or heifers calved in 1903, in calf, and due to calve within nine months after the Show	4
31. Two-year-old heifers	5
32. One-year-old heifers	6
—	42
	<hr/> 258

2. HORSES.

DRAUGHT STALLIONS.

33. Aged stallions	12
34. Three-year-old entire colts	15
35. Two-year-old entire colts	14
36. One-year-old entire colts	13
—	54

DRAUGHT GELDINGS.

37. Aged geldings	6
38. Three-year-old geldings	5
39. Two-year-old geldings	3
—	14

DRAUGHT MARES AND FILLIES.

40. Mares with foal at foot	10
41. Yeld mares, foaled before 1903	6
Extra stock	2
42. Three-year-old yeld mares, or fillies	7
43. Two-year-old fillies	14
44. One-year-old fillies	11
—	50

HUNTERS.

45. Colts, geldings, or fillies, foaled in 1905, the produce of thoroughbred stallions	—
46. Fillies, mares, or geldings, for field, foaled in 1904—in hand	1
47. Yeld mares, fillies, or geldings, for field, foaled in 1903—in hand	—
48. Made hunters, any age, able to carry up to 13 stone	—
49. Made hunters, any age, able to carry over 13 stone	—
50. Hunter, brood mares, with foal at foot	—
—	43

HACKNEYS.

51. Brood mares, 15 hands and upwards, with foal at foot, or to foal this season to a registered sire	1
52. Brood mares, under 15 hands, with foal at foot, or to foal this season to a registered sire	3
53. Yeld mares or fillies, three years old	—
54. Fillies, two years old	—
55. Fillies, one year old	—
56. Stallions, foaled in or before 1903, over 15 hands	—
57. Stallions, foaled in or before 1903, over 14 and not over 15 hands	—
58. Entire colts, two years old	—
59. Entire colts, one year old	—



Fig 62—SHORTHORN BULL "METFOR" 86,631

Winner of the President's Medal for best Shorthorn Peebles Show 1906 The property of Sir Richard Cooper Bart Shenstone Court Lichfield Bred by Mr C M Richardson, Noyadd Wilwyn Cardiganshire Age three years and three months



Fig. 63—ABERDEEN ANGUS COW, "JUANA ERICA" 36,285.

Winner of the President's Medal for best Aberdeen-Angus animal Peebles Show, 1906 The property of Mr J E Kerr Harviestoun Castle Dollar Bred by the Dowager-Countess of Seafield, Cullen House, Cullen Age three years and two months



Fig 64.—GALLOWAY BULL, "CAMPFOLLOWER 3RD OF STEPFORD 8407
 Winner of the President's Medal for best Galloway Peebles Show, 1906. The property of Mr
 W. M. Neilson of Queenshill Ringford. Bred by Mr D. Brown Stepford Auldgrith
 Age five years.



Fig 65.—HIGHLAND BULL, 'LORD CLYDE' 2084
 Winner of the President's Medal for best Highland animal Peebles Show 1906. The property of
 Bulloigh & Trustees, Mcgarnie Castle Aberfeldy. Bred by the late Earl of Southesk.
 Age three years and three months.

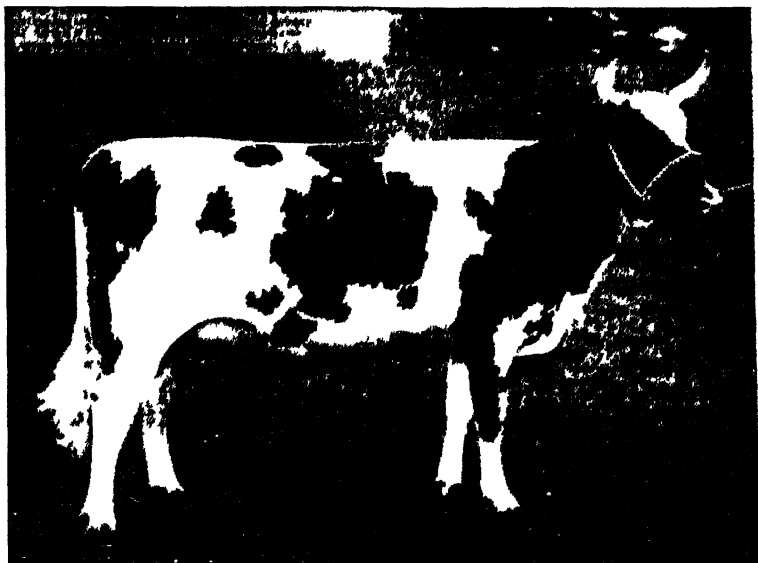


Fig 6b —AYRSHIRE COW, LADY DIANA '16726

Winner of the President's Medal for best Ayrshire Peebles Show 1906 Bred by and the property of Mr Alex. Cross of Knockdon, Maybole Age three years and three months

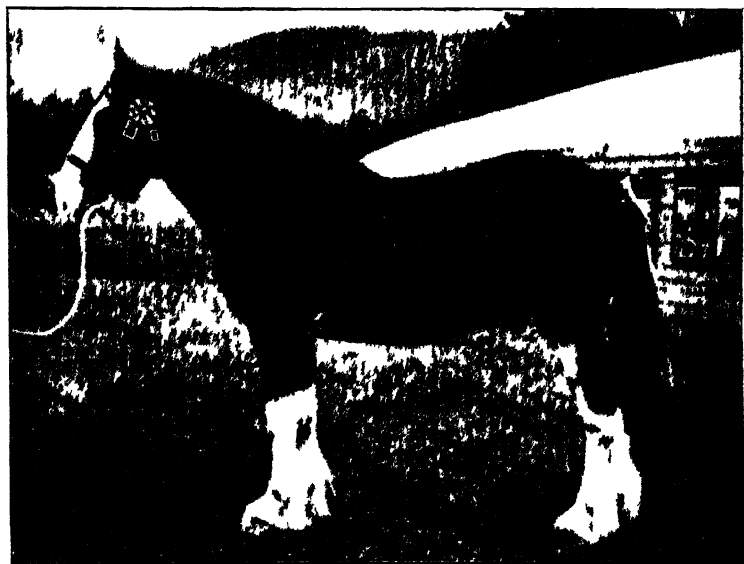


Fig 67 —CLYDESDALE COLT, 'SCOTTISH CREST' 13182

Winner of the President's Medal for best Clydesdale Stallion or Colt Peebles Show, 1906 The property of Messrs A & W. Montgomery, Netherhall and Banks, Kirkcudbright Bred by Messrs Wright & Sons, Silloth Farm Silloth Age two years and three months

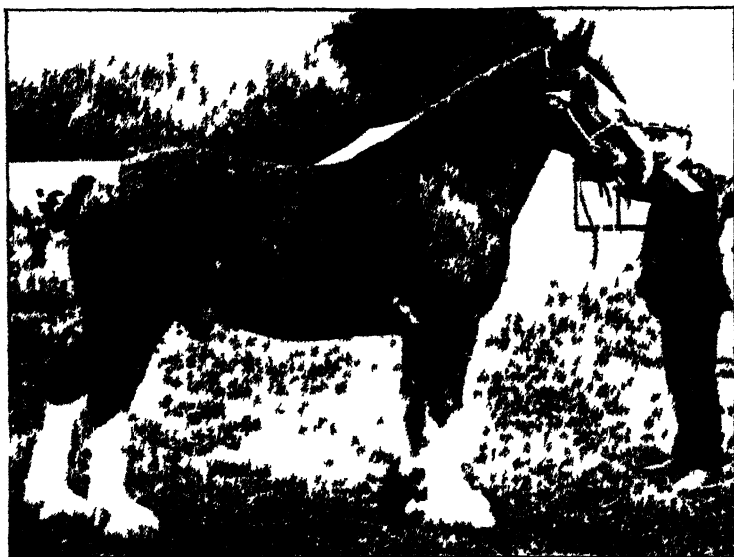


Fig 68 —DRAUGHT GELDING 'BEST OF ALL'

Winner of the President's Medal for best Draught Gelding Peebles Show 1906 The property of Mr W. Clark, Nether Cuthbert Bred by Captain Brown, Milton Hill, Alves Age six years



Fig 69 —CLYDESDALE MARE 'PYRENE'

Winner of the President's Medal for best Clydesdale Mare or Filly Peebles Show 1906 The property of Mr J. E. Kerr, Harrier, Castle Douglas Bred by Mr W. P. Gilmour, Balmagrain, Kirkcubright Age six years



Fig. 70.—HUNTER GELDING, "IRELAND."

Winner of the President's Medal for best Hunter, Peebles Show, 1906. The property of Messrs T. & H. Ward, Pinchinthorpe, Great Ayton. Bred by Mr T. M'Keever, Factory Hill, Colon, Ireland. Age five years.



Fig. 71.—HACKNEY COLT, "COPMANTHORPE PERFORMER."

Winner of the President's Medal for best Hackney, Peebles Show, 1906. The property of Mr Arthur Hall, Copmanthorpe, Grange, Yorks. Bred by Mr G. Hall, Bishop Wilton, Wilberfoss, Yorks. Age two years.



Fig 72—PONY STALLION 'SIR ARCHIE

Winner of the President's Medal for best Pony Peebles Show 1906 The property of Mr J E Kerr Harrowton Castle Dollar Bred by Sir G Greenall Bart Wilt n Hall Warrington Age three years



Fig 73—POLO PONY STALLION 'WHITE MASK 190

Winner of the President's Medal for best Polo Pony Peebles Show 1906 The property of Mr F W Chance M P Warrington Carlisle Bred by Kewstham Stud Co Bledbafa Radnorshire Age seven years

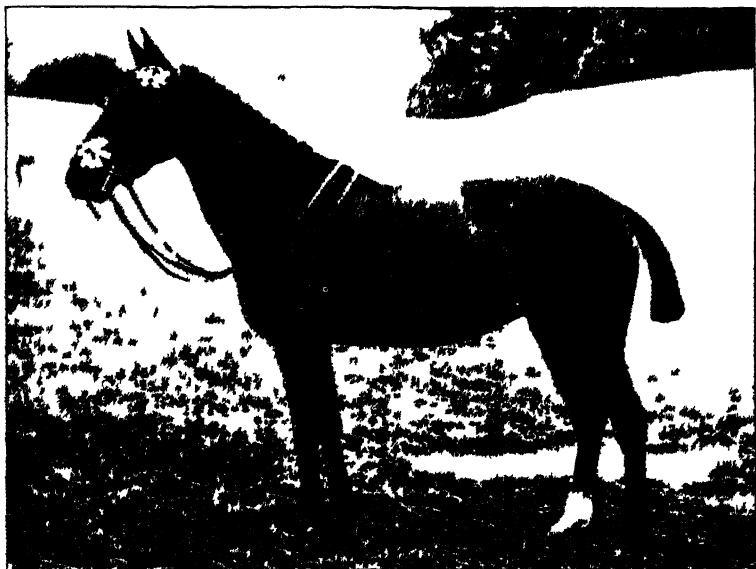


Fig 74—COB MARE, 'COLONATION'

Winner of the President's Medal for best Cob, Peebles Show 1906. Bred by and the property of the Earl of Minto, Minto, Hawick. Age four years.



Fig 75—HIGHLAND PONY STALLION, "MACNEIL"

Winner of the President's Medal for best Highland Pony, Peebles Show 1906. The property of Lord Arthur Cecil, The Mount, Lynnington, Hants. Breeder unknown. Age five years.



FIG. 76—SHETLAND PONY STALLION 'DELMAN'

Winner of the President's Medal for the best Shetland Pony at the Show 1900. Bred by and the property of Mr. R. W. R. Mitchell, Earlshall, Leuchers, Ayrshire.



Fig 77 'LANGTON GIDDING' IN HARNESS

Whinniet of the President, Model for best animal in Driving Classes, People's Show, 1906. The property of Mr. T. C. McMillan. The H. L. Langton, Whinniet's driver. Bred by Mr. W. B. H. Stinchfield, Yorks. Age, five years.



Fig. 78 —BLACKFACE SHEARLING TUP

Winner of the President's Medal for best Blackface Sheep, Peebles Show, 1906 Bred by and the property of Messrs Cadzow Brothers Boreland and Stonehill, Dunyree Carstairs Junction

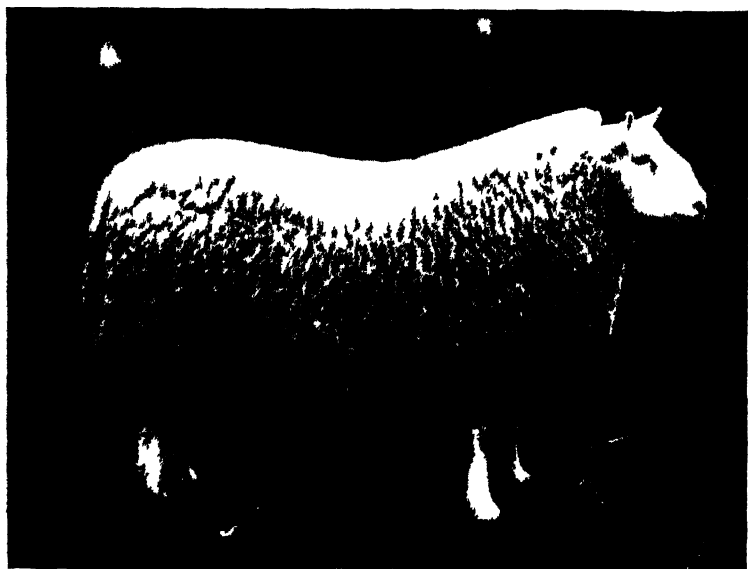


Fig. 79 —CHEVIOT SHEARLING TUP

Winner of the President's Medal for best Cheviot Sheep, Peebles Show, 1906 Bred by and the property of Mr John Elliot Hindhope Jedburgh



Fig. 80.—BORDER LEICESTER TUP, "PITLIVIE BRILLIANT."

Winner of the President's Medal for best Border Leicester, Peebles Show, 1906. The property of Mr R. Taylor, Pitlivi, Carnoustie. Bred by the Duke of Buccleuch. Age two shear.

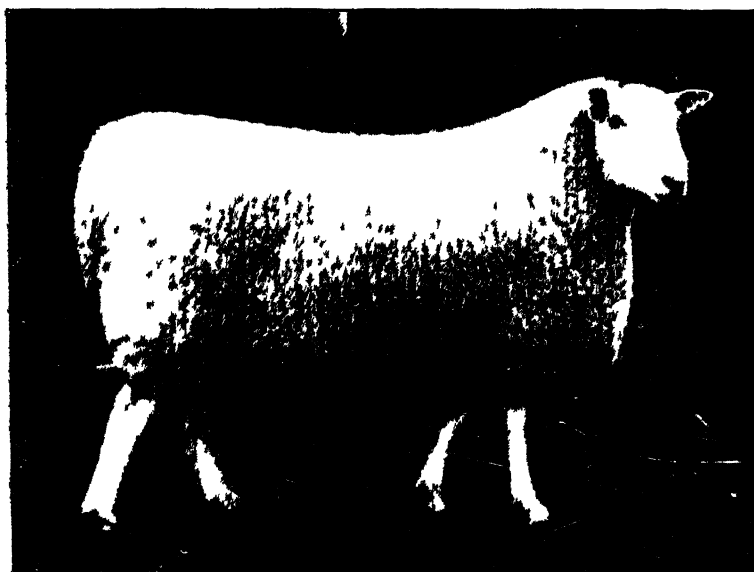


Fig. 81.—HALF BRED SHEARLING TUP.

Winner of the President's Medal for Best Half Bred, Peebles Show, 1906. The property of Mr John Mark, Sunnyside, Prestonkirk. Bred by Mr Jeffrey, Deuchrie, Fife-shire.



Fig 82—SHROPSHIRE TUP

Winner of the President's Medal for best Shropshire Peebles Show 1906 Bred by and the property of Sir Richard Cooper Bart Shenstone Court Lichfield Age two shear



Fig 83—OXFORD DOWN SHEARLING TUP

Winner of the President's Medal for best Oxford Down Peebles Show 1906 Bred by and the property of Mr James T Hobbs Masey Hampton Fairford, Gloucester



Fig 84—SUFFOLK EWE LAMBS

Winner of President's Medal for 1st pen of Suffolk Sheep Peebles Show 1906 Bred by and the property of Mr W. F. J. Fenton Harris, Drenth



Fig 85—LARGE WHITE SOW, 'WALTON BEAUTY' 13 035

Winner of the President's Medal for best pen of Swine Peebles Show 1906 The property of Mr D. W. Gunn Craigerock Farm Blackhall Edinburgh Bred by Sir F. Greenall, Bart., Walton Hall Warrington Age four years

PONIES.

60. Stallions, 3 years old and upwards, over 12 and not exceeding 14 hands	4
61. Stallion, 3 years old and upwards, 12 hands and under. (<i>No entry.</i>)	
62. Yeld mares, fillies, or geldings, 3 years old and upwards, over 13 and not over 14 hands	2
63. Yeld mares, fillies, or geldings, 3 years old and upwards, over 12 and not over 13 hands	5
64. Yeld mares, fillies, or geldings, 3 years old and upwards, 12 hands and under	4
	— 15

POLO AND RIDING PONIES.

65. Stallions, 3 years old and upwards, 13.2 and not exceeding 14.2 hands	1
Extra stock	1
	— 2

COBS.

66. Riding cob or pony, not eligible by pedigree or type for any of the other pony classes, from 13.2 to 15 hands	6
---	---

HIGHLAND PONIES.

67. Stallions, 3 years old or upwards, not exceeding 14.2 hands, entered or accepted for entry in the Highland section of the Polo Pony Stud-Book	4
68. Entire colts, foaled in 1904 or 1905	4
Extra stock	1
69. Mares, 3 years old or upwards, not exceeding 14.2 hands, yeld or with foal at foot, entered or accepted for entry in the Highland section of the Polo Pony Stud-Book	4
	— 13

SHETLAND PONIES.

70. Stallions, not exceeding 10½ hands, foaled before 1903	
71. Entire colts, not exceeding 10½ hands, foaled in 1903 or 1904	
72. Mares, not exceeding 10½ hands, with foal at foot	
73. Yeld mares, not exceeding 10½ hands	
74. Fillies, not exceeding 10½ hands, foaled in 1903 or 1904	
	— 31

DRIVING COMPETITIONS.

75. Yeld mares, fillies, or geldings, any age, in harness, 15 hands and upwards (5)	
76. Yeld mares, fillies, or geldings, any age, in harness, under 15 hands (6)	
Extra stock	

258

JUMPING.

1. Horses or ponies, any height	15
2. Horses or ponies, any height—handicap	13
3. Horses or ponies, any height—handicap	10
	— 38

3. SHEEP.

BLACKFACED.

77. Tups above one shear	11
78. Shearling tups	39
79. Ewes above one shear, with lambs	12
80. Shearling ewes or gimmers	15
	— 77

CHEVIOT.

81. Tups above one shear	15
82. Shearling tups	15
83. Ewes above one shear, with lambs	9
84. Shearling ewes or gimmers	12
	— 51

BORDER LEICESTER		
85. Tups above one shear	.	5
86. Shearling tups	.	27
87. Ewes above one shear	.	11
88. Shearling ewes or gimmers	.	18
		— 61
HALF-BRED.		
89. Tups above one shear	.	2
90. Shearling tups	.	15
91. Ewes above one shear	.	7
92. Shearling ewes or gimmers	.	4
93. Three ewe lambs	.	10
		— 38
SHROPSHIRE.		
94. Tups above one shear	.	2
95. Shearling tups	.	5
96. Ewes above one shear	.	3
97. Shearling ewes or gimmers	.	4
		— 14
OXFORD DOWNS.		
98. Shearling tups	.	18
99. Shearling ewes or gimmers	.	8
		— 21
SUFFOLK.		
100. Shearling tup	.	1
101. Shearling ewes or gimmers	.	10
102. Three ewe lambs	.	3
		— 14
EXTRA SECTIONS.		
103. Fat lambs, any breed or cross	.	13
Extra stock	.	2
		— 15
		291

4. SWINE

104. Boars, large white breed	.	
105. Sows, large white breed	.	
106. Pairs of boars not above 8 months old, large white breed	.	
107. Pairs of gilts not above 8 months old, large white breed	.	5
108. Boars, Berkshire breed	.	6
109. Sows, Berkshire breed	.	6
110. Pairs of boars not above 8 months old, Berkshire breed	.	4
111. Pairs of gilts not above 8 months old, Berkshire breed	.	7
		— 40

5. POULTRY.

1-83. Poultry	.	438
---------------	---	-----

6. DAIRY PRODUCE.

1. Powdered butter, not less than 7 lb.	13
2. Fresh butter, 3 l.-lb. rolls	20
3. Cheddar cheese, 56 lb. and upwards	17
4. Flat white cheese, 40 lb. and upwards	7
5. Cheese, 14 lb. and under	15
	72

ABSTRACT.

	No. of Entries.
1. Cattle	253
2. Horses	258
3. Sheep	291
4. Swine	40
5. Poultry	438
6. Dairy produce	72

The following table gives a comparative view of the entries of cattle, horses, sheep, swine, poultry, dairy produce, and implements, of the value of the premiums offered, and of the receipts at the entrance-gates, grand stands, and for catalogues at the Shows which have been held in the Border District:—

Year and Place.	Cattle.	Horses.	Sheep.	Swine.	Poultry.	Dairy Produce.	Imple-ments.	Premi-ums.	Re-ceipts.
1832, Kelso	88	18	89	16	..	..	11	£530	£129
1841, Berwick	175	96	209	25	..	..	60	1050	410
1854, Do	179	141	358	54	87	..	357	1500	805
1863, Kelso	245	127	276	49	87	..	1101	1300	1423
1872, Do.	274	214	269	36	216	..	1777	1888	2171
1880, Do.	275	226	224	23	202	..	1578	2671	1664
1889, Melrose	271	243	290	42	220	51	1288	2276	2214
1898, Kelso	244	270	366	25	335	38	1933	2855	2196
1906, Peebles	253	258	291	40	438	72	1658	3072	2596

A Comparison.

The following figures, relating to some of the most successful Shows the Society has held, will be perused with interest:—

	Cattle.	Horses.	Sheep.	Swine.	Poultry.	Total Live Stock.	Imple-ments.	Premi-ums.	Drawings at Show.	Profit.
Glasgow, 1867	286	212	257	58	150	963	1344	£1600	£3,005	£1307
Edinburgh, 1869	310	212	340	22	239	1123	1900	1600	4,078	2067
Glasgow, 1875	411	405	296	48	479	1639	2220	2665	6,231	3316
Edinburgh, 1877	339	342	305	30	234	1250	2292	2714	6,784	3710
Edinburgh, 1884	580	453	493	35	253	1814	2282	4343	6,548	1855
Edinburgh, 1893	380	349	294	31	360	1414	2268	2600	4,918	2323
Aberdeen, 1894	314	324	184	34	365	1221	2532	2440	5,121	1678
Perth, 1896	292	258	204	20	374	1148	1945	2205	4,788	2511
Glasgow, 1897	317	350	245	30	275	1217	2227	2897	4,392	2021
Edinburgh, 1899	386	518	477	46	551	1978	2535	3844	10,285	3911
Stirling, 1900	321	288	369	28	457	1463	2095	2915	4,305	1078
Inverness, 1901	360	257	204	22	499	1340	1460	2806	2,485	99
Aberdeen, 1902	330	253	243	42	475	1343	1983	2796	4,413	1604
Perth, 1904	343	315	283	35	413	1394	1972	3058	4,993	1828
Glasgow, 1905	310	462	284	60	534	1750	1875	3702	4,473	1203
Peebles, 1906	253	258	291	40	438	1280	1658	3072	2,596	416

Cattle.

The display of cattle was of high average merit, and quite satisfactory with regard to the number of entries. As to the total number of entries of cattle, the Show stands fourth amongst the nine shows which have been held in the Border district. In the classes of Shorthorns there were 69 entries, and in respect of merit the breed was thoroughly well represented. In a very good class of aged bulls Sir Richard Cooper, Bart., came first with "Meteor" 86,631 (fig. 62), a level, well-proportioned three-year-old white, bred by Mr C. M. Richardson, Noyadd Wilwym, Cardiganshire, got by "Moonlight" 75,110, and out of a cow by "Major" 59,419. This handsome bull won both the Shorthorn Society's £25 special prize for the best Shorthorn bull and the President's Champion Medal for the best animal of the breed in the Show. For his honours "Meteor" was very closely run by Mr A. T. Gordon's stylish two-year-old bull "Fascinator" 88,569. The female Shorthorn classes were quite creditably filled. The special prize of £25 given by the Shorthorn Society for the best Shorthorn cow or heifer was won by Mr George Harrison, Gainford Hall, Darlington, for his well-known prize-winning cow "Ursula Raglan," bred by Mr A. Dobson, Williamsgill, Temple Sowerby.

The Aberdeen-Angus breed of cattle made a small but very satisfactory display with regard to merit. The President's Champion Medal for the best animal of the breed went to Mr J. Ernest Kerr, Harviestoun Castle, Dollar, for his extremely neat, thick, level three-year-old cow "Juana Erica" 36,285 (fig. 63), bred by the Dowager-Countess of Seafield, got by the bull "Premier of Finlarig" 17,059, out of "Ettina Erica" 27,485. The Ballindalloch Challenge Cup, for the best bull of the Aberdeen-Angus breed, went to Sir George Macpherson Grant, Bart., for his handsomely-shaped five-year-old bull "Jeshurun" 19,257, bred by himself, and got by "Eblito" 14,306.

Galloway cattle were also few in number, but quite up to their usual high standard in merit. The President's Champion Medal for the best animal of this breed went to Mr W. M. Neilson of Queenshill, Ringford, for the well-formed five-year-old bull "Campfollower 3rd of Stepford" 8407 (fig. 64), bred by Mr D. Brown, Stepford, Auldirth, got by "Great Scot" 6489, out of "Edie of Durhamhill" 14,926.

As usual, Highland cattle, of which there were 52 entries, made an exceedingly attractive appearance in the showyard. In a very fine class of old bulls the first prize went to "Lord Clyde" 2034 (fig. 65), an exceptionally handsome three-year-old brindled bull, owned by Bullough's Trustees, Meggernie Castle, and bred by the late Earl of Southesk, got by "Barguilean"

1632, out of "Caroline Clare" 2934. This stylish bull won the President's Champion Medal for the best animal of the breed. The classes of Highland cows and heifers were specially well filled.

Most of the classes of Ayrshire cattle were small, but, particularly amongst the cows, a number of excellent representatives of the breed were exhibited. The President's Champion Medal for the best animal of the Ayrshire breed went to Mr Alexander Cross of Knockdon for his good-looking three-year-old white cow "Lady Diana" 16,726 (fig. 66). This fine cow was bred at Knockdon, got by "King's Knight" 4888, out of "Lady Jane" 13,820.

Horses.

Of the display of Clydesdale horses, it is sufficient to say that the high standard of recent years was thoroughly well maintained. In most of the classes there was a fair number of entries, and, all over, the character of the animals was highly creditable. The President's Champion Medal for the best Clydesdale stallion or colt went to Messrs A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, for their handsomely-formed two-year-old colt "Scottish Crest" 13,182 (fig. 67). This exceptionally promising colt was bred by Messrs Wright & Sons, Silloth, got by "Baron's Pride" 9122, and out of "Sea-breeze" 15,902.

The classes of Draught Geldings were small, but most of the animals were of satisfactory form and strength. The President's Champion Medal for the best Draught Gelding was won by Mr William Clark, Netherlea, Cathcart, for his good-looking six-year-old brown gelding "Best of All" (fig. 68), bred in Morayshire.

Clydesdale Mares and Fillies made a very fine appearance all through. The President's Champion Medal for the best Clydesdale female was won by Mr J. Ernest Kerr, Harviestoun Castle, Dollar, for his valuable six-year-old mare "Pyrene" (fig. 69), bred by Mr W. P. Gilmour, Balmangan, Kirkcudbright, got by "Baron's Pride" 9122, and out of "Missie of Balmangan" 14,226.

Although the classes for Hunting horses were not large, they contained a number of animals of considerable merit. The President's Champion Medal for the best Hunter went to Messrs T. & H. Ward, Pinchinthorpe, Great Ayton, for a good-looking five-year-old gelding named "Ireland" (fig. 70), bred in the Emerald Isle.

Hackney horses were also few in number, but were of decidedly high average merit. Mr Arthur Hall, Copmanthorpe Grange, York, won the President's Champion Medal for the

best Hackney with his fine two-year-old colt "Copmanthorpe Performer" (fig. 71), bred by Mr G. Hall, Bishop Wilton, Wilberfoss, York, got by "Garton Duke of Connaught" (3009), out of "Copmanthorpe Lily" by "Langton" 6078.

The classes of Ponies were exceptionally small, but most of the animals were of quite satisfactory merit. The President's Champion Medal for the best pony was won by Mr J. Ernest Kerr, Harviestoun Castle, with his attractive three-year-old bay stallion "Sir Archie" (fig. 72), bred by Sir G. Greenall, Bart., by "Sir Gibbie" 1612, and out of "Ailette" 13.219.

Unfortunately only two Polo Ponies were entered, the President's Champion Medal going to Mr F. W. Chance, M.P., Morton, Carlisle, for his seven-year-old chestnut stallion "White Mask" 190 (fig. 73).

In the class for Riding Cobs not eligible for any of the other classes there were six entries, and most of the animals were of a useful stamp. The President's Champion Medal for the best Cob was won by the Earl of Minto with "Coronation" (fig. 74), a very useful four-year-old mare bred by his lordship.

The classes of Highland Ponies were also smaller than could have been wished, but with regard to merit they were, on the whole, creditable. The President's Champion Medal for the best Highland pony went to Lord Arthur Cecil for his five-year-old stallion "MacNeil" (fig. 75), of unknown breeding.

As is their wont, Shetland Ponies made an exceedingly attractive display, all the classes being fairly well filled. Mr R. W. R. Mackenzie, Earls hall, Leuchars, won the President's Champion Medal here for his stylish six-year-old stallion "Bellman" (fig. 76), bred by himself, got by "Vespa" 166, and out of "Belle of Bressay" 1192.

The Driving classes were small, but contained two or three valuable animals. The President's Champion Medal here went to Mr T. C. McKibbin, The Heaning, Windermere, for his five-year-old chestnut gelding "Langton Gelding" (fig. 77), got by "Langton" 6078.

Sheep, Swine, &c.

All over, the show of Sheep was of a high order. The Black-face breed was exceptionally well represented. The winners of the President's Champion Medals are shown in figs 78, 79, 80, 81, 82, 83, and 84.

There was a small but very good show of Swine. The President's Champion Medal went to Mr Gunn, Craigcrook Farm, Blackhall, Edinburgh, for his handsome large white sow "Walton Beauty" 13,038 (fig. 85).

The exhibits of Dairy Produce were not numerous, but the quality was good. There was an excellent show of Poultry.

PREMIUMS AWARDED BY THE SOCIETY IN 1906.

1.—PEEBLES SHOW

17th, 18th, 19th, and 20th July 1906.

ABBREVIATIONS.—V., *Very Highly Commended.* H., *Highly Commended.*
C., *Commended.*

CATTLE

SHORTHORN.

PRESIDENT'S CHAMPION MEDAL for best Shorthorn.

No. 3 Sir Richard Cooper, Bart., Shenstone Court, Lichfield, "Meteor" (86,681).

Best Shorthorn Bull in the Show—£25, given by the Shorthorn Society.

No. 3 Sir Richard Cooper, Bart., Shenstone Court, Lichfield, "Meteor" (86,681).

Breeder of best Bull of any age in Classes 1, 2, and 3—The Silver Medal.

No. 3 C. Morgan Richardson, Noyadd Wilwym, Cardiganshire.

CLASS 1. BULL, calved before 1904.—Premiums, £15, £10, £5, and £3.

1st No. 3 Sir Richard Cooper, Bart., Shenstone Court, Lichfield. "Meteor" (86,681).

2nd No. 7 John Ross, Meikle Tarrel, Fearn, "Ajax" (80,320).

3rd No. 11 Robert Taylor, Pitlivié, Carnoustie, "Regal Beaufort" (89,803).

4th No. 1 William Bell, Ratcheugh, Alnwick, "Baron Hopeful" (82,802).

V No. 9 Duncan Stewart, Millhills, Crieff, "Royal Eclipse" (87,179).

H No. 4 Sir John Gilmour, Bart., Montrave, Leven, Fife, "Broadhooks Conqueror" (85,451).

C No. 5 George Harrison, Gainford Hall, Darlington, "Pioneer" (86,822).

CLASS 2. BULL, calved in 1904.—Premiums, £15, £10, £5, and £3.

1st No. 13 Alex. T. Gordon, Combscauseway, Inch, "Fascinator" (88,569).

2nd No. 20 Wm. T. Malcolm, Dunmore, by Larbert, "Ballachraggan Admiral" (87,842).

3rd No. 21 Lord Polwarth, Mertoun, St Boswells, "British Renown."

4th No. 15 George Harrison, Gainford Hall, Darlington, "Royal Ensign" (89,924).

V No. 17 A. W. & A. M. Law, Mains of Sanquhar, Forres, "Stoneytown Monarch" (90,245).

H No. 22 John Ross, Meikle Tarrel, Fearn, "Sarasate."

CLASS 3. BULL, calved in 1905.—Premiums, £12, £8, £4, and £2.

- 1st No. 31 A. Robertson, Haugh of Ballechin, Ballinluig, "Avondale."
 2nd No. 28 A. W. & A. M. Law, Mains of Sanguhar, Forres, "Pride of Holl."
 3rd No. 33 John Ross, Meikle Tarrel, Fearn, "Milleraig Margrave."
 4th No. 26 J. Douglas Fletcher of Rosehaugh, Avoch, "Sunguard."
 V No. 35 Robert Taylor, Pitlivie, Carnoustie, "Baron Lindis Fame."
 H No. 27 George Harrison, Gainford Hall, Darlington, "Mucklethwaite Magnate 2nd."
 C No. 30 Wm. T. Malcolm, Dunmore, by Larbert, "Lord Fauntleroy."
 C No. 32 William John Robertson, Mounteagle, Fearn, Ross-shire, "Milleraig Moonstone."

Best Shorthorn Female in the Show—£25, given by the Shorthorn Society.

- No. 40 George Harrison, Gainford Hall, Darlington, "Ursula Raglan."

CLASS 4. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

- 1st No. 40 George Harrison, Gainford Hall, Darlington, "Ursula Raglan."
 2nd No. 42 Robert Taylor, Pitlivie, Carnoustie, "Silver May."
 3rd No. 37 The Duke of Buccleuch, K.G., Dalkeith Park, Dalkeith, "Bell Heather."
 4th No. 41 Lord Polwarth, Mertoun House, St Boswells, "Cowslip Bloom."
 V No. 39 A. G. Maxtone Graham, Redgorton, Perth, N.B., "Bride of Lincoln."

CLASS 5. HEIFER, calved in 1904.—Premiums, £10, £5, £3, and £2.

- 1st No. 49 A. Robertson, Haugh of Ballechin, Ballinluig, "Royal Lily."
 2nd No. 46 Wm. T. Malcolm, Dunmore, by Larbert, "Lowland Dream."
 3rd No. 48 Lord Polwarth, Mertoun House, St Boswells, "Bonnie Gowan."
 4th No. 43 Rt. Hon. A. J. Balfour, M.P., Whittingehame, Prestonkirk, "Lady Gordon 2nd."

CLASS 6. HEIFER, calved in 1905.—Premiums, £10, £5, £3, and £2.

- 1st No. 69 Robert Taylor, Pitlivie, Carnoustie, "Pitlivie Rosebud 2nd."
 2nd No. 56 George Harrison, Gainford Hall, Darlington, "Montrave Wondrous."
 3rd No. 57 F. Godfrey Hill, Little Haddo, Newburgh, Aberdeen, "Royal Rose."
 4th No. 59 H. M. S. Mackay, Burgie Lodge Farm, Elgin, "Golden Pippin."
 V No. 55 Alex. T. Gordon, Combscausway, Inch, "Countess Lavender."
 H No. 58 H. M. S. Mackay, Burgie Lodge Farm, Elgin, "Golden Princess."
 H No. 67 Captain A. Stirling of Keir, Dunblane, "Keir Julia."
 C No. 60 Wm. T. Malcolm, Dunmore, by Larbert, "Bessborough Belle 5th."
 C No. 63 Lord Polwarth, Mertoun House, St Boswells, "Mertoun Ruby."

ABERDEEN-ANGUS.

PRESIDENT'S CHAMPION MEDAL for best Aberdeen-Angus Animal.

- No. 95 J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).

Best Bull of any age in Classes 7, 8, and 9—Ballindalloch Challenge Cup, value £50, given by Sir George Macpherson Grant, Bart.

- No. 71 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Jeshurun" (19,257).

Breeder of best Bull of any age in Classes 7, 8, and 9—The Silver Medal.

No. 71 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch.

Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.

No. 71 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch.

Best Breeding Animal of the Breed in the Showyard—Champion Gold Medal, given by the Polled Cattle Society.

No. 95 J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).

CLASS 7. BULL, calved before 1st December 1903.—
Premiums, £15, £10, £5, and £3.

- 1st No. 71 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Jeshurun" (19,257).
- 2nd No. 73 George Smith Grant, Auchorachan, Glenlivet, "Prince Forest" (21,106).
- 3rd No. 76 John Macpherson, Mulben, Keith, "Khartoum of Ballindalloch" (20,732).
- 4th No. 75 Alexander M'Laren, Auchnagie, Tullymet, Ballinluig, N.B., "Erelo" (21,861).
- V No. 72 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Everard of Ballindalloch" (21,902).
- H No. 74 R. Wylie Hill, Home Farm, Balthayock, Perth, "Enochdhu" (21,848).

CLASS 8. BULL, calved on or after 1st December 1903.—
Premiums, £15, £10, £5, and £3.

- 1st No. 80 Garden A. Duff, Hatton Castle, Home Farm, Turriff, "Eblis" (23,069).
- 2nd No. 81 George Smith Grant, Auchorachan, Glenlivet, "Ephorus" (23,139).
- 3rd No. 77 James Beddie, Banks, Strichen, "Argus of Drip" (22,871).
- 4th No. 82 His Majesty the King, Balmoral, Ballater, "Pridor" (23,708).
- V No. 78 James Calder of Ardargie, Forgandenny, "Elchi" (23,093).
- H No. 83 John Murray, Munnieston, Thornhill, Stirling, "Erica Enterprise" (23,150).

CLASS 9. BULL, calved on or after 1st December 1904.—
Premiums, £12, £8, £4, and £2.

- 1st No. 85 Donald M. Macrae, Stenhouse, Thornhill, Dumfriesshire, "Everlasting of Ballindalloch" (24,435).
- 2nd No. 84 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Blizzard" (24,175).
- 3rd No. 87 William Watt, Middlefield, Cupar, "Passionest" (24,844).
- 4th No. 86 W. W. Tait, Bowtrees, Larbert, "Enterprise of Auchterarder" (24,370).

Best Cow of any age in Class 10—Ballindalloch Challenge Cup, value £50, given by the late Mr C. Macpherson Grant of Drumduan.

No. 95 J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).

Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.

No. 95 Dowager-Countess of Seafield, Cullen House, Cullen.

CLASS 10. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

- 1st No. 95 J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).
- 2nd No. 91 W. S. Ferguson, Kinochtry, Coupar-Angus, "Mistress Nelly" (32,975).
- 3rd No. 94 R. Wylie Hill, Home Farm, Balthayock, Perth, "Ismene" (34,051).

- 4th No. 92 W. S. Ferguson, Kinochtry, Coupar-Angus, "Moss Rose of Kinochtry" (35,466).
 V No. 93 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Maidment of Aberlour" (37,238).
 H No. 89 James Beattie, Banks, Strichen, "Craig VII. of Banks" (35,091).

EXTRA STOCK.

The following was Very Highly Commended, and a Medium Silver Medal awarded.

- No 96 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Pride of Honour" (33,608).

CLASS 11. HEIFER, calved on or after 1st December 1903.—
 Premiums, £10, £5, £3, and £2.

- 1st No. 103 His Majesty the King, Balmoral, Ballater, "Gwitch" (36,695).
 2nd No. 102 Geo. Smith Grant, Auchorachan, Glenlivet, "Pride of Spey 4th" (37,292).
 3rd No. 101 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Pride B. 6th of Auchorachan" (37,440).
 4th No. 104 John Macpherson, Mulben, Keith, "Pride of Aberdeen 257th" (37,714).
 V No. 97 T. H. Baubridge, Eshott Hall, Felton, Northumberland, "Elvena" (37,746).
 H No. 98 James Beattie, Banks, Strichen, "Craig XI." (36,826).
 C No. 99 W. S. Ferguson, Kinochtry, Coupar-Angus, "Pride Marian" (37,270).
 C No. 100 W. S. Ferguson, Kinochtry, Coupar-Angus, "Ruby Ring" (38,086).

CLASS 12. HEIFER, calved on or after 1st December 1904.—
 Premiums, £10, £5, £3, and £2.

- 1st No. 114 James Whyte, Hayston, Glamis, "Bashful Bet" (39,794).
 2nd No. 110 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Eve of Ballindalloch" (39,028).
 3rd No. 109 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Prize" (38,913).
 4th No. 107 James Beattie, Banks, Strichen, "Demora Vine 7th" (38,538).
 V No. 112 J. E. Kerr, Harviestoun Castle, Dollar, "Ellenora" (39,212).
 H No. 106 T. H. Bainbridge, Eshott Hall, Felton, Northumberland, "Coquette of Eshott" (38,484).
 C No. 111 R. Wylie Hill, Home Farm, Balthayock, Perth, "Myrtle of Balthayock" (39,131).
 C No. 115 James Whyte, Hayston, Glamis, "Beauty 20th of Hayston" (39,796).

*GALLOWAY.**PRESIDENT'S CHAMPION MEDAL for best Galloway.*

- No. 120 Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Camp-follower 3rd of Stepford" (8407).

Breeder of best Bull of any age in Classes 13, 14, and 15—The Silver Medal.

- No. 120 David Brown, Stepford, Auldgrith, Dumfries.

CLASS 13. BULL, calved before 1st December 1903.—
 Premiums, £15, £10, £5, and £3.

- 1st No. 120 Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Camp-follower 3rd of Stepford" (8407).
 2nd No. 119 John McCormick, Lochend, Corsock, Dalbeattie, "Othello of Kilquhanity" (8469).
 3rd No. 116 John Cunningham, Tarbreoch, Dalbeattie, "Chancellor" (9010).
 4th No. 117 C. R. Dudgeon, Mains of Cargen, Dumfries, "Chief III." (8892).

CLASS 14. BULL, calved on or after 1st December 1903.—
Premiums, £15, £10, £5, and £3.

- 1st No. 122 The Countess of Carlisle, Naworth Castle, Carlisle, "Bruce of Naworth," late "Kuroki of Craig House" (Eng. Herd-Book, 62; Scot., 9308).
2nd No. 123 C. R. Dudgeon, Mains of Cargen, Dumfries, "Baron Wilson of Cargen" (9159).
3rd No. 125 Major Wedderburn Maxwell, Glenlair, Dalbeattie, "Orion" (9188).
4th No. 124 Robert Graham, Auchengassel, Twynholm, "Black Pearl" (9190).

CLASS 15. BULL, calved on or after 1st December 1904.—
Premiums, £12, £8, £4, and £2.

- 1st No. 133 James Wilson, Tundergarth Mains, Lockerbie, "Warery" (9566).
2nd No. 132 Thomas Graham, Marchfield, Dumfries, "Banker" (9509).
3rd No. 128 The Duke of Buccleuch, K.G., Drumlanrig Castle, Thornhill, Dumfriesshire, "Romulus of Drumlanrig" (9421).
4th No. 131 Robert Graham, Auchengassel, Twynholm, "Historian of Auchengassel" (9492).
V No. 130 A. H. Fox-Brockbank, The Croft, Kirksanton, Cumberland, "Marchfield Critic" (9628).

CLASS 16. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

- 1st No. 138 John Cunningham, Tarbreoch, Dalbeattie, "Netty 32nd of Tarbreoch" (17,996).
2nd No. 141 Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Joan of Queenshill" (17,454).
3rd No. 135 Sir Robert Buchanan-Jardine of Castlemilk, Bart., Lockerbie, "Lady Alice of Castlemilk" (17,903).
4th No. 134 Sir Robert Buchanan-Jardine of Castlemilk, Bart., Lockerbie, "Alice II. of Castlemilk" (16,352).
V No. 137 John Cunningham, Tarbreoch, Dalbeattie, "Doris" (16,912).
H No. 140 Major Wedderburn Maxwell, Glenlair, Dalbeattie, "Marionette of Glenlair" (16,288).
C No. 139 Thomas Graham, Marchfield, Dumfries, "Lady Grace III." (17,485).

CLASS 17. HEIFER, calved on or after 1st December 1903.—
Premiums, £10, £5, £3, and £2.

- 1st No. 149 Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Joyce of Queenshill" (18,437).
2nd No. 147 Robert Graham, Auchengassel, Twynholm, "Gipsy Queen of Auchengassel" (18,467).
3rd No. 146 A. H. Fox-Brockbank, The Croft, Kirksanton, Cumberland, "Graceful" (18,468).
4th No. 150 James Wilson, Tundergarth Mains, Lockerbie, "Clara 8th" (18,407).
V No. 145 John Cunningham, Tarbreoch, Dalbeattie, "Louisa 5th of Tarbreoch" (18,418).
H No. 143 Thomas Graham, Marchfield, Dumfries, "Lady Isabella II. of Stepford" (18,525).

CLASS 18. HEIFER, calved on or after 1st December 1904.—
Premiums, £10, £5, £3, and £2.

- 1st No. 156 A. H. Fox-Brockbank, The Croft, Kirksanton, Cumberland, "Jasmine" (18,989).
2nd No. 155 The Duke of Buccleuch, K.G., Drumlanrig Castle, Thornhill, Dumfriesshire, "Fride 37th of Drumlanrig" (18,765).
3rd No. 158 Major Wedderburn Maxwell, Glenlair, Dalbeattie, "Eileen 3rd of Glenlair" (18,871).
4th No. 159 James Wilson, Tundergarth Mains, Lockerbie, "May Margret" (18,941).

HIGHLAND.

PRESIDENT'S CHAMPION MEDAL for best Highland Animal.

No. 160 Bullough's Trustees, Meggernie Castle, Aberfeldy, "Lord Clyde" (2034).

Breeder of best Bull of any age in Classes 19, 20, and 21—The Silver Medal.

No. 160 The late Earl of Southesk, Kinnaird Castle, Brechin.

CLASS 19. BULL, calved before 1904.—Premiums, £15, £10, £5, and £3.

- 1st No. 160 Bullough's Trustees, Meggernie Castle, Aberfeldy, "Lord Clyde" (2034).
 2nd No. 165 D. A. Stewart, Ensay, Obbe, Portree, "Morair-nan-Eilean" (2051).
 3rd No. 166 Allan Gilmour Thom, Island of Canna, Oban, "Waverley" (2086).
 4th No. 162 Kenneth MacDonall of Logan, Stranraer, "William of Farr" (1747).
 V No. 164 Thomas A. Nelson, Achnacloich, Connel, Argyllshire, "Malachi" (1870).
 H No. 168 W. D. Mackenzie of Farr and Newbie, Daviot, Inverness, "Calum Ban of Farr" (1783).
 C No. 161 J. R. Moreton Macdonald of Largie, Largie Castle, Tayinloan, Argyllshire, "Iain-n-Laragaidh" (1902).

CLASS 20. BULL, calved in 1904.—Premiums, £15, £10, £5, and £3.

- 1st No. 169 The Earl of Southesk, Kinnaird Castle, Brechin, "Saladin" (2067).
 2nd No. 168 William Sopper of Dunmaglass, Daviot, "King Alfred" (2024).
 3rd No. 167 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "Valentine XXIV." (2082).
 4th No. 170 D. A. Stewart, Ensay, Obbe, Portree, "Morair Og."

CLASS 21. BULL, calved in 1905.—Premiums, £12, £8, £4, and £2.

- 1st No. 172 Sir Donald Currie, G.O.M.G., of Garth and Glenlyon, Balnacraig, Fortingall, "Senalair Ghart."
 2nd No. 171 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Cennard-na-Buaille of Atholl."
 3rd No. 179 The Earl of Southesk, Kinnaird Castle, Brechin, "Gulliver."
 4th No. 175 Thomas Arthur Nelson, Achnacloich, Connel, Argyllshire, "Ceatharnach of Achnacloich."
 V No. 174 Colonel Malcolm of Poltalloch, C.B., Poltalloch, Lochgilphead, "A Giomanach."
 H No. 178 William Sopper of Dunmaglass, Daviot, "Ossian."

CLASS 22. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

- 1st No. 189 D. A. Stewart, Ensay, Obbe, Portree, "Laoghag Bhuidhe IV." (6584).
 2nd No. 181 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Bean Odhar of Atholl" (5401).
 3rd No. 184 The Countess-Dowager of Seafield, Castle Grant, Grantown, Strathspey, "Tina II. of Castle Grant" (5839).
 4th No. 188 William Sopper of Dunmaglass, Daviot, "Madam Luna" (5289).
 V No. 185 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "May Queen V." (4796).
 H No. 186 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "Minne of Ardtornish" (5253).

CLASS 23. HEIFER, calved in 1903.—Premiums, £10, £5, £3, and £2.

- 1st No. 195 The Countess-Dowager of Seafield, Castle Grant, Grantown, Strathspey, "Empress Victoria" (6513).
 2nd No. 191 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Te Riabhach 7th of Atholl."
 3rd No. 192 James D. Graham, Airthrey Castle, Bridge of Allan, "Ban Righ."
 4th No. 199 ...
 V
 H No.
 C No. 190 John Stirling Ainsworth, M.P., Ardanaiseig, Kilchrenan, "Capleadh IV. of Ardanaiseig."

CLASS 24. HEIFER, calved in 1904.—Premiums, £10, £5, £3, and £2.

- 1st No. 209 D. A. Stewart, Ensay, Obbe, Portree, "Laochag."
 2nd No. 201 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Te Riabhach 8th of Atholl."
 3rd No. 204 John M'Donald, Duntulm, Portree, "Dosach of Duntulm."
 4th No. 210 The Duke of Sutherland, K.G., Dunrobin Castle, Golspie, "Shanag II. of Dunrobin."
 V No. 202 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Donnag Riabhach 4th of Atholl."
 H No. 208 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "Sgiathach 50th."
 C No. 203 Bullough's Trustees, Meggernie Castle, Aberfeldy, "Mairi Og."

AYRSHIRE.

PRESIDENT'S CHAMPION MEDAL for best Ayrshire.

- No. 231 Alex. Cross of Knockdon, Maybole, "Lady Diana" (16,726).

Breeder of best Bull of any age in Classes 25, 26, and 27—The Silver Medal.

- No. 215 Robert Forrest, Knockinlaw, Kilmarnock.

CLASS 25. BULL, calved before 1904.—Premiums, £12, £8, and £4.

- 1st No. 212 Thomas Barr, Monkland, Kilmarnock, "Zomo-sal" (5887).
 2nd No. 213 Jas. Howie, Hillhouse, Kilmarnock, "Wynflette" (5441).
 3rd No. 214 Robert Osborne, Morton Mains, Thornhill, "Morton Mains Epicarmus" (5793).

CLASS 26. BULL, calved in 1904.—Premiums, £10, £7, and £3.

- 1st No. 215 Jas. Howie, Hillhouse, Kilmarnock, "Spicey Sam" (5927).
 2nd No. 216 Robert Woodburn, Whitehill, Hurlford, "Rising Sun" (5826).

CLASS 27. BULL, calved in 1905.—Premiums, £8, £5, and £3.

- 1st No. 219 Jas. Howie, Hillhouse, Kilmarnock, "Grandeur."
 2nd No. 217 Thomas Barr, Monkland, Kilmarnock, "Guarantee" (6245).
 3rd No. 220 William Murray, Borrow Moss, Wigtown, "Gay Scott."
 V No. 218 Jas. Howie, Hillhouse, Kilmarnock, "Dairy Swell."

CLASS 28. COW, calved before 1903, in Milk.—Premiums, £12, £8, and £4.

- 1st No. 228 William Murray, Borrow Moss, Wigtown, "Dairymaid."
 2nd No. 227 Messrs Kerr, Old Graitney, Greta, "Old Graitney Fairy Like" (17,604).

CLASS 29. COW, in Milk, calved after 1st January 1903.—Premiums, £10, £7, and £3.

- 1st No. 230 Alex. Cross of Knockdon, Maybole, "Perfection 3rd" (16,734).
 2nd No. 235 Messrs Kerr, Old Graitney, Greta, "Old Graitney Soney 7th" (18,252).
 3rd No. 234 Messrs Kerr, Old Graitney, Greta, "Old Graitney Queen 2nd" (18,250).
 V No. 241 Jas. M'Alister, Meikle Kilmory, Rothesay, "Lady Mary of Buta."

CLASS 30. COW of any age, in Calf, or HEIFER calved in 1903, in Calf and due to calve within nine months after the Show.—Premiums, £10, £7, and £3.

- 1st No. 231 Alex. Cross of Knockdon, Maybole, "Lady Diana" (16,726).
 2nd No. 239 Thomas Barr, Monkland, Kilmarnock, "Brookie."

CLASS 31. HEIFER, calved in 1904.—Premiums, £10, £5, and £3.

- 1st No. 244 James Howie, Hillhouse, Kilmarnock, "Whinflower."
 2nd No. 243 James Howie, Hillhouse, Kilmarnock, "Ruby Rare."
 3rd No. 246 Andrew Mitchell, Barcheskie, Kirkcudbright, "Bonny Nancy."
 V No. 245 Mrs J. G. Martin, Brandon, Brodick, "Brodick Snowdrop 2nd"
 (17,552).
 H No. 247 William Murray, Borrow Moss, Wigtown, "Highland Mary."

CLASS 32. HEIFER, calved in 1905.—Premiums, £8, £5, and £3.

- 1st No. 248 Thomas Barr, Monkland, Kilmarnock, "Lady Mary."
 2nd No. 253 Robert Woodburn, Whitehill, Hurlford, "Duchess."
 3rd No. 251 William Murray, Borrow Moss, Wigtown, "Lady Grace."
 V No. 252 Robert Osborne, Morton Mains, Thornhill, "Morton Mains Leila Vieta."
 H No. 250 Andrew Mitchell, Barcheskie, Kirkcudbright, "Scotch Flower."

HORSES**FOR AGRICULTURAL PURPOSES.****DRAUGHT STALLIONS.****PRESIDENT'S CHAMPION MEDAL for best Clydesdale Stallion or Colt.**

- No. 286 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Scottish Crest" (13,182).

Breeder of best Male Animal of any age in Classes 33 to 36—The Silver Medal.

- No. 286 John Wright & Sons, Silloth Farm, Silloth.

CLASS 33. STALLION, foaled before 1903.—Premiums, £20, £15, £10, and £4.

- 1st No. 254 Wm. Clark, Netherlea, Cathcart, "Baron's Best" (11,597).
 2nd No. 256 Wm. Dunlop, Dunure Mains, Ayr, "Baron o' Buchlyvie" (11,263).
 3rd No. 264 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Baron's Voucher" (12,041).
 4th No. 262 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Blackheath" (12,051).
 V No. 265 William Renwick, Meadowfield, Corstorphine, "Margrave" (12,240).
 H No. 258 John M'Nee, Afton House, Crief, "Baron M'Nee" (12,462).

CLASS 34. ENTIRE COLT, foaled in 1903.—Premiums, £20, £15, £10, and £4.

- 1st No. 272 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Warlabby" (12,779).
 2nd No. 267 Wm. Clark, Netherlea, Cathcart, "Dunnydeer" (12,557).
 3rd No. 273 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Baron Winsome" (12,475).
 4th No. 271 A. M'Robbie, Sunnyside, Aberdeen, "The Comet" (13,224).
 V No. 276 D. Riddell, Blackhall, Paisley, "King's Champion."
 H No. 268 Robert Dawson, Dovehill, Pollockshaws, "Radium."
 C No. 269 Douglas Brothers, Early Pier, Eddleston, "Monrovia" (13,108).

CLASS 35. ENTIRE COLT, foaled in 1904.—Premiums, £20, £12, £8, and £4.

- 1st No. 286 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Scottish Crest" (13,182).
 2nd No. 285 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Royal Choice" (13,165).
 3rd No. 293 Wm. Taylor, Park Mains, Renfrew, "Sir Oliver" (13,209).
 4th No. 291 The Executors of the late Thos. Smith, Blacon Point, Chester, "Robin Hood" (13,154).

- V No. 289 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Baron's Honour" (12,847).
 H No. 288 James Kilpatrick, Craigie Mains, Kilmarnock, "Perfect Motion" (18,123).
 C No. 294 Scott Wyllie, Milton of Luncarty, Perth, "Miluccio."

CLASS 36. ENTIRE COLT, foaled in 1905.—Premiums, £15, £10, £6, and £4.

- 1st No. 306 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright.
 2nd No. 304 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright.
 3rd No. 305 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright.
 4th No. 297 Wm. Dunlop, Dunure Mains, Ayr, "Dunure Foreman."
 V No. 296 D. & J. Curr, Red House, Carlisle.
 H No. 295 Wm. Clark, Netherlea, Cathcart.
 C No. 299 William Kennedy, Luce Mains, Ecclefechan.

DRAUGHT GELDINGS.

PRESIDENT'S CHAMPION MEDAL for best Draught Gelding.

- No. 310 Wm. Clark, Netherlea, Cathcart, "Best of All."

CLASS 37. DRAUGHT GELDING, foaled before 1903.—
 Premiums, £10, £5, and £3.

- 1st No. 310 Wm. Clark, Netherlea, Cathcart, "Best of All."
 2nd No. 311 James Kilpatrick, Craigie Mains, Kilmarnock.
 3rd No. 308 Wm. C. Bowe, Thorntonloch, Innerwick, "Mace."

CLASS 38. DRAUGHT GELDING, foaled in 1903.—Premiums, £6, £4, and £3.

- 1st No. 314 W. C. Bowe, Thorntonloch, Innerwick, "The Major."
 2nd No. 315 Wm. Clark, Wester Bogie, Kirkcaldy, "Alfonso."
 3rd No. 316 Wm. Clark, Netherlea, Cathcart, "Tom."
 V No. 317 J. Ernest Kerr, Harviestoun Castle, Dollar.

CLASS 39. DRAUGHT GELDING, foaled in 1904.—Premiums, £6, £4, and £3.

- 1st No. 319 Wm. Clark, Netherlea, Cathcart, "Willie."
 2nd No. 320 J. & W. Meiklem, Begg, Kirkcaldy, "Johnie."
 3rd No. 321 James Tudhope, Nether Fala, Eddleston, "Master Jack."

DRAUGHT MARES AND FILLIES.

PRESIDENT'S CHAMPION MEDAL for best Clydesdale Mare or Filly.

- No. 339 J. Ernest Kerr, Harviestoun Castle, Dollar, "Pyrena."

Best Clydesdale Mare or Filly registered in the Clydesdale Stud-Book—Cawdor Challenge Cup, value 50 guineas, given by the Clydesdale Horse Society.

- No. 339 J. Ernest Kerr, Harviestoun Castle, Dollar "Pyrena."

Breeder of Best Clydesdale Brood Mare—The Robert Murdoch Prize, value £10.

- No. 325 The late Thos. Smith, Blacon Point, Chester.

CLASS 40. MARE of any age, with Foal at foot.—
 Premiums, £20, £12, £7, and £4.

- 1st No. 325 J. Ernest Kerr, Harviestoun Castle, Dollar, "Chester Princess" (16,371).
 2nd No. 323 Robert Forrest, Knockinlaw, Kilmarnock, "Jean of Knockinlaw."
 3rd No. 327 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Mimosa" (16,911).
 4th No. 322 Robert Chapman, Johnston, Gartcosh, "Heather Beauty."
 V No. 326 John Mc'Nee, Crieff, "Sarah Pride."
 H No. 324 J. Ernest Kerr, Harviestoun Castle, Dollar, "Rosedew" (16,783).
 C No. 329 Lord Polwarth, Mertoun House, St Boswells, "Sturdy Rose."

CLASS 41. YELD MARE, foaled before 1903.—Premiums, £12, £9, £6, and £4.

- 1st No. 336 Robert Park, Brunstane, Portobello, "Florodora" (16,295).
 2nd No. 332 Robert Chapman, Johnston, Gartcosh, "Winsome Baroness."
 3rd No. 333 George Findlater, Jerviswood Mains, Lanark, "Lilah."
 4th No. 337 D. Riddell, Blackhall, Paisley, "Evelyn."
 H No. 334 Sir John Gilmour of Montrave, Bart., Leven, Fife, "Montrave Dorothy" (16,695).

EXTRA STOCK.

The following was Very Highly Commended, and a Medium Silver Medal awarded—
 No. 339 J. Ernest Kerr of Harviestoun Castle, Dollar, "Pyrene."

CLASS 42. YELD MARE or FILLY, foaled in 1903.—
 Premiums, £12, £9, £6, and £4.

- 1st No. 342 J. Ernest Kerr, Harviestoun Castle, Dollar, "Veronique."
 2nd No. 345 Seaham Harbour Stud, Ltd., The Dene, Seaham Harbour, "Silver Princess."
 3rd No. 340 Douglas Bros., Early Pier, Eddleston, Mare, "Pamela."
 4th No. 341 Wm. Dunlop, Dunure Mains, Ayr, "Fair Lothian."
 C No. 346 James Tudhope, Nether Fala, Eddleston, Mare, "Miss Hilda."

CLASS 43. FILLY, foaled in 1904.—Premiums, £12, £9, £6, and £4.

- 1st No. 357 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Baron's Brilliant."
 2nd No. 358 William Neilson, Haining Valley, Linlithgow, "Hilda."
 3rd No. 353 J. Ernest Kerr, Harviestoun Castle, Dollar, "Delicia."
 4th No. 351 Sir John Gilmour, Bart. of Montrave, Leven, "First Choice."
 V No. 349 Francis Elliot, Middlestots, Duns, "Lady Baron Airies."
 H No. 347 Robert Chapman, Johnston, Gartcosh, "Evelyn Black."
 C No. 352 R. & J. Kerr, Lochlane, Crieff, "Lady Lindo."

CLASS 44. FILLY, foaled in 1905.—Premiums, £12, £9, £6, and £4.

- 1st No. 364 J. Ernest Kerr, Harviestoun Castle, Dollar, "Marilla."
 2nd No. 365 J. Ernest Kerr, Harviestoun Castle, Dollar, "Fenella."
 3rd No. 363 Sir John Gilmour, Bart. of Montrave, Leven, Fife, "Branda of Montrave."
 4th No. 367 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Lady Newton II."
 V No. 370 D. Riddell, Blackhall, Paisley.
 H No. 361 J. Douglas Fletcher of Rosehaugh, Avoch, "Primora."
 C No. 362 J. Douglas Fletcher of Rosehaugh, Avoch, "Black Baroness."

HUNTERS.

PRESIDENT'S CHAMPION MEDAL for best Hunter.

No. 409 Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, Gelding, "Ireland."

Best Hunter Filly in Classes 45, 46, and 47, registered or entered in the Hunter Stud-Book—Gold Medal, value £10, 10s., given by the Hunter Improvement Society.

No. 373 William Lee Carlyle, Templehill, Ecclefechan, Filly, "Peg the Rake."

CLASS 45. COLT, GELDING, or FILLY, foaled in 1905, the produce of thoroughbred Stallions, out of Mares of any breed.—Five Prizes—£10, £7, £5, £2, and £1, given by Sir John Gilmour of Montrave, Bart.

- 1st No. 373 William Lee Carlyle, Templehill, Ecclefechan, Filly, "Peg the Rake."
 2nd No. 377 Earl of Rothes, Leslie House, Leslie, Fife, Colt, "Wotan" (8018).
 3rd No. 372 J. A. Campbell, Craigie House, Ayr, Filly.
 4th No. 376 Earl of Rothes, Leslie House, Leslie, Fife, Colt, "Briony."
 5th No. 374 Captain Clayhills Henderson, R.N., of Invergowie, Dundee, Filly, "Barlette."

CLASS 46. FILLY, MARE, or GELDING, for field, foaled in 1904, *in hand*.—
 Premiums, £8, £5, and £3.

- 1st No. 381 Lewis Beattie, Mossknowe, Canonbie, Gelding, "Gilnockie" (2122).
 2nd No. 380 Lewis Beattie, Mossknowe, Canonbie, Gelding, "Starlight."
 3rd No. 385 Miss Heron Maxwell, Deanburnhaugh, Denholm, Roxburghshire, Gelding, "Monk's Croft."
 H No. 384 Captain Clayhills Henderson, R.N., Invergowrie, Dundee, Filly, "Spinner."

CLASS 47. YELD MARE, FILLY, or GELDING, for field, foaled in 1903, *in hand*.—
 Premiums, £8, £5, and £3.

- 1st No. 392 J. A. Robson Scott, Newton, Jedburgh, Filly.
 2nd No. 390 Charles Jackson, Manor House, Dalston, Carlisle, Gelding, "Larry."
 3rd No. 391 Mrs Percy Morris, Broadholm, Lockerbie, Filly "Hollyhock."
 H No. 388 William Lee Carlyle, Templehill, Ecclefechan, Gelding, "Dandie."
 C No. 394 Andrew Wilson, Esbie, Lochmaben, Filly, "Lady Dancer" (3001).

CLASS 48. MADE HUNTERS, any age, able to carry up to 13 stone.—
 Premiums, £15, £10, and £5.

- 1st No. 401 Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, Gelding, "Sportsman."
 2nd No. 400 Fred. Usher, Broom House, Duns, Gelding, "Letham."
 3rd No. 396 Miss E. F. Calder, Halterburn, Yetholm, Kelso, Gelding, "Gibbets."

CLASS 49. MADE HUNTERS, any age, able to carry over 13 stone.—
 Premiums, £15, £10, and £5.

- 1st No. 409 Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, Gelding, "Ireland."
 2nd No. 405 James Robertson, The Tofts, Morebattle, Kelso, Gelding, "Four Cyclinder."
 3rd No. 403 J. A. Holms, Sandyford, Paisley, Gelding, "Skittles."
 V No. 402 Capt. Gerald F. Dunne, Netheral, Carlisle, Gelding, "Kilmestan."

CLASS 50. HUNTER BROOD MARE, with Foal at foot.—
 Premiums, £15, £8, and £4, given by Captain Clayhills Henderson of Invergowrie, R.N.

- 1st No. 414 Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, "Beatrice."
 2nd No. 412 Robert Wallace, Townhead of Drumley, Annbank Station, Ayr, "Fire Escape" (1864).
 3rd No. 410 Captain Clayhills Henderson, R.N., of Invergowrie, Dundee, "Princess Patricia" (1178).
 H No. 411 Captain Clayhills Henderson, R.N., of Invergowrie, Dundee, "Wild Rose."

HACKNEYS.

(ALL TO BE SHOWN *IN HAND*.)

PRESIDENT'S CHAMPION MEDAL for best Hackney.

- No. 433 Arthur Hall, Copmanthorpe Grange, York, "Copmanthorpe Performer."

Best Mare or Filly in Hackney or Pony Classes—Champion Prize of £10, or a Gold Medal of the same value, at the option of the Exhibitor, given by the Hackney Horse Society.

- No. 415 A. W. Hickling, Adbolton, Nottingham, "Adbolton Rosina" (15,129).

CLASS 51. BROOD MARE, 15 hands and upwards, with Foal at foot or to foal this season to a registered sire. Registered in the Hackney Stud-Book.—
 Premiums, £10, £8, and £4.

- 1st No. 415 A. W. Hickling, Adbolton, Nottingham, "Adbolton Rosina" (15,129).

CLASS 52. BROOD MARE, under 15 hands, with Foal at foot or to foal this season to a registered sire. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st No. 416 J. Ernest Kerr, Harviestoun, Dollar, "Londesborough Nancy" (15,984).

2nd No. 417 John MacArthur, 5 Cumin Place, Edinburgh, "Brenda" (9787).

CLASS 53. YELD MARE or FILLY, foaled in 1903. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 419 J. Ernest Kerr, Harviestoun Castle, Dollar, "Broxton Geltlette" (16,494).

2nd No. 420 William Wisely, Braeside, Mannofield, "Braeside Bangle."

CLASS 54. FILLY, foaled in 1904. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 423 A. W. Hickling, Adbolton, Nottingham, "Adbolton Rosamond."

2nd No. 424 Mrs Ostlere, Chapel House, Kirkcaldy, "Luette."

3rd No. 421 Carr & Co., Clydevale Hackney Stud, Carlisle, N.B., "Beverley Queen."

CLASS 55. FILLY, foaled in 1905, eligible for entry in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 426 Wm. M'Allister, The Inverness Hackney Stud, Inverness, "Acclamation of Inverness."

CLASS 56. STALLION, foaled in or before 1903, over 15 hands. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st No. 430 Thomas Hall, Copmanthorpe Grange, York, "St Thomas" (7261).

2nd No. 431 Seaham Harbour Stud, Ltd., The Dene, Seaham Harbour, "Freemason" (8146).

3rd No. 427 Carr & Co., Clydevale Hackney Stud, Carlisle, N.B., "Original" (9365).

CLASS 57. STALLION, foaled in or before 1903, over 14 and not over 15 hands. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st No. 432 Wm. M'Allister, The Inverness Hackney Stud, Inverness, "Inverness Royalist" (8908).

CLASS 58. ENTIRE COLT, foaled in 1904. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 433 Arthur Hall, Copmanthorpe Grange, York, "Copmanthorpe Performer."

CLASS 59. ENTIRE COLT, foaled in 1905, eligible for entry in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 436 Wm. M'Allister, The Inverness Hackney Stud, Inverness, "Inverness St Thomas."

2nd No. 437 Wm. Wisely, Braeside, Mannofield, Aberdeen, "Braeside Freemaster."

3rd No. 435 Alexander Davidson, Ladyurd, Dolphinton.

PONIES.

PRESIDENT'S CHAMPION MEDAL for best Pony.

No. 440. J. Ernest Kerr, Harviestoun, Dollar, "Sir Archie."

CLASS 60. STALLION, 3 years old and upwards, over 12, not exceeding 14 hands, *in hand*.—Premiums, £5, £3, and £2.

1st No. 440 J. Ernest Kerr, Harviestoun, Dollar, "Sir Archie."

2nd No. 441 William S. Miller, The Moorings, Dumbreck, Glasgow, "Bantam King."

3rd No. 438 Carr & Co., Clydevale Hackney Stud, Carlisle, N.B., "Bathgate Swell" (8731).

CLASS 61. STALLION, 3 years old and upwards, 12 hands and under, *in hand*.—Premiums, £5, £3, and £2.

No Entry.

CLASS 62. YELD MARE, FILLY, or GELDING, 3 years old and upwards, over 13 and not over 14 hands, *in saddle*.—Premiums, £5, £3, and £2.

2nd No. 442 John Ellis, Laverlaw, Peebles, Mare, "Polly."

CLASS 63. YELD MARE, FILLY, or GELDING, 3 years old and upwards, over 12 and not over 13 hands, *in saddle*.—Premiums, £5, £3, and £2.

1st No. 444 J. E. Kerr, Harviestoun Castle, Dollar, Mare, "Marcelline."

2nd No. 447 William Wisely, Braeside, Mannofield, Aberdeen, Gelding, "Bantam."

3rd No. 445 William S. Miller, The Moorings, Dumbreck, Glasgow, Gelding, "Dumbreck Surprise."

CLASS 64. YELD MARE, FILLY, or GELDING, 3 years old and upwards, 12 hands and under, *in hand*.—Premiums, £5, £3, and £2.

1st No. 449 John Cairns, Carberry, Methil, Fifeshire, Mare, "Little Queen" (8042).

2nd No. 450 Andrew Low, Oswald Road, Kirkcaldy, Gelding, "Little Bobbie."

3rd No. 452 John Wilkie, Brockhouse, Fountainhall, Gelding, "Multrig."

POLO AND RIDING PONIES.

PRESIDENT'S CHAMPION MEDAL for best Polo or Riding Pony.

No. 453 F. W. Chance, M.P., Morton, Carlisle, "White Mask" (190).

CLASS 65. STALLION, 3 years old and upwards, 13.2 and not exceeding 14.2 hands, entered in the Polo and Riding Pony Stud-Book, or got by a Registered Polo Pony sire or out of a Registered Polo Pony dam.—Premiums, £5, £3, and £2.

1st No. 453 F. W. Chance, M.P., Morton, Carlisle, "White Mask" (190).

COBS.

PRESIDENT'S CHAMPION MEDAL for best Pony in Class 66.

No. 457 The Earl of Minto, Minto, Hawick, Mare, "Coronation."

CLASS 66. RIDING COB or PONY, not eligible by pedigree or type for any of the other Pony Classes, from 13.2 to 15 hands—*in saddle*.—Premiums, £5, £3, and £2.

1st No. 457 The Earl of Minto, Minto, Hawick, Mare, "Coronation."

2nd No. 456 J. C. Ewart, Duddingston House, Mid-Lothian, Mare, "Fatimah."

HIGHLAND PONIES.

PRESIDENT'S CHAMPION MEDAL for best Highland Pony.

No. 461 Lord Arthur Cecil, The Mount, Lymington, Hants, "MacNeil."

CLASS 67. HIGHLAND PONY STALLION, 3 years old or upwards, not exceeding 14.2 hands, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book.—Premiums, £10, £3, and £2.

1st No. 461 Lord Arthur Cecil, The Mount, Lymington, Hants, "MacNeil."

2nd No. 463 Charles D. M. Ross, Ibert, Crief, "Johnnie" (254).

3rd No. 464 Donald Stewart, Drumchorry, Pitlochry, "Moss Laddie" (336).

CLASS 68. HIGHLAND PONY ENTIRE COLT, foaled in 1904 or 1905.—Premiums, £10, £3, and £2.

1st No. 465 Lady Arthur Cecil, The Mount, Lymington, Hants, "Righ-na-Fhraioch."

2nd No. 467 J. H. Munro Mackenzie of Calgary, Isle of Mull, "Heather Jock."

3rd No. 468 Donald Stewart, Drumchorry, Pitlochry, "Glen."

H No. 466 J. C. Ewart, Duddingston House, Mid-Lothian, "Sir Ranald."

EXTRA STOCK.

The following was Commended, and a Bronze Medal awarded—

No. 469 J. H. Munro Mackenzie of Calgary, Isle of Mull, "Mull."

CLASS 69. HIGHLAND PONY MARE, 3 years old or upwards, not exceeding 14.2 hands, Yeld or with Foal at foot, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book.—Premiums, £10, £3, and £2.

1st No. 470 R. Hargreaves, Gaick Forest, Kingussie, "Mountain Polly."

2nd No. 473 Donald Stewart, Drumchorry, Pitlochry, "Fionnaghal Niedhonuill" (1523).

3rd No. 471 J. H. Munro Mackenzie of Calgary, Isle of Mull, "Ulva."

EXTRA STOCK.—FOR EXHIBITION.

The following was Commended, and a Bronze Medal awarded—

No. 509 J. C. Ewart, Duddingston House, Mid-Lothian, Celtic Mare and Foal.

No. 510 J. C. Ewart, Duddingston House, Mid-Lothian, Celtic yearling.

No. 511 J. C. Ewart, Duddingston House, Mid-Lothian, Libyan, "The Old."

SHETLAND PONIES.

(ALL TO BE SHOWN IN HAND.)

PRESIDENT'S CHAMPION MEDAL for best Shetland Pony.

No. 483 R. W. R. Mackenzie, Earlsall, Leuchars, "Bellman."

CLASS 70. STALLION, not exceeding 10½ hands, foaled before 1903.—Premiums, £5, £4, £3, and £2.

1st No. 477 R. W. R. Mackenzie, Earlsall, Leuchars, "Bellman."

2nd No. 480 William Mungall of Transy, Dunfermline, "Seaweed."

3rd No. 474 Robert Chapman, Johnston, Gartcosh, N.B., "Heather Jock."

4th No. 476 Charles Douglas, Auchlochan, Lesmahagow, "Crown Prince."

V No. 478 George A. Miller, Lawmuir, Methven, "Steinar" (283).

H No. 481 Sir Edward A. Stewart-Richardson, Pitfour Castle, Glencarse, Perthshire, "Benedict."

O No. 475 Charles Douglas, Auchlochan, Lesmahagow, "Eric" (294).

CLASS 71. ENTIRE COLT, not exceeding 10½ hands, foaled in 1903 or 1904.—
Premiums, £5, £4, £3, and £2.

- 1st No. 488 R. W. R. Mackenzie, Earlsall, Leuchars, "Merryman."
2nd No. 482 Charles Douglas, Auchlochan, Lesmahagow, "Shamrock."
3rd No. 484 George A. Miller, Lawmuir, Methven, "Boy Blue."

CLASS 72. MARE, not exceeding 10½ hands, with Foal at foot.—
Premiums, £5, £4, £3, and £2.

- 1st No. 486 R. W. R. Mackenzie, Earlsall, Leuchars, "Hildigunna" (668).
2nd No. 489 William Mungall of Transy, Dunfermline, "Senga."
3rd No. 488 George A. Miller, Lawmuir, Methven, "Hermia."
4th No. 485 Charles Douglas, Auchlochan, Lesmahagow, "Inga" (1492).

CLASS 73. YELD MARE, not exceeding 10½ hands.—
Premiums, £5, £4, £3, and £2.

- 1st No. 488 William Mungall of Transy, Dunfermline, "Thoralind."
2nd No. 492 William Mungall of Transy, Dunfermline, "Stella" (1692).
3rd No. 491 William Mungall of Transy, Dunfermline, "Sea Serpent" (1535).
4th No. 490 George A. Miller, Lawmuir, Methven, "Barbara."
V No. 494 David Stewart, Blantyre Park, High Blantyre, "Roma."

CLASS 74. FILLY, not exceeding 10½ hands, foaled in 1903 or 1904.—
Premiums, £5, £4, £3, and £2.

- 1st No. 501 William Mungall of Transy, Dunfermline, "Emily Dhu."
2nd No. 496 Charles Douglas, Auchlochan, Lesmahagow, "Pandora."
3rd No. 500 William Mungall of Transy, Dunfermline, "Lady Steyn."
4th No. 502 John Sharp, Balmuir, Dundee, "Stella."
V No. 498 R. W. R. Mackenzie, Earlsall, Leuchars, "Brilliant."
H No. 499 George A. Miller, Lawmuir, Methven, "Biddy."
C No. 497 R. W. R. Mackenzie, Earlsall, Leuchars, "Dormouse."

DRIVING COMPETITIONS.

PRESIDENT'S CHAMPION MEDAL for best Animal in the Classes for Horses in Harness.

- No. 506 T. C. M'Kibbin, The Heaning, Windermere, Gelding, "Langton Gelding"

CLASS 75. YELD MARE, FILLY, or GELDING, any age, in Harness, 15 hands and upwards, to be driven in the ring.—Premiums, £10, £5, and £3.

- 1st No. 506 T. C. M'Kibbin, The Heaning, Windermere, Gelding, "Langton Gelding."
2nd No. 507 George Wolfe, Millburn, Bathgate, Mare, "Millburn Star."
3rd No. 505 George Johnston, jun., potato merchant, Airdrie, Mare, "Rose Bay" (16,140).

Special Prize for best Pony in Class 76 under 13 hands—£5.

- No. 445 William S. Miller, The Moorings, Dumbreck, Glasgow, Gelding, "Dumbreck Surprise."

CLASS 76. YELD MARE, FILLY, or GELDING, any age, in Harness, under 15 hands, to be driven in the ring.—Premiums, £10, £5, and £3.

- 1st No. 508 T. C. M'Kibbin, The Heaning, Windermere, Gelding, "Flourish."
2nd No. 445 William S. Miller, The Moorings, Dumbreck, Glasgow, Gelding, "Dumbreck Surprise."
3rd No. 448 George Wolfe, Millburn, Bathgate, Gelding, "Millburn Bantam."

JUMPING COMPETITIONS

Wednesday, 18th July.

CLASS 1. HORSES or PONIES, any height.—Premiums, £20, £15, £10, £5, and £3.

1. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Rufus."
2. James Nodwell, New George Hotel, Dumfries, Gelding, "High Life."
3. Simon Andrews & Sons, Cardonald Grain Mills, Paisley, Gelding, "Ping Pong."
4. William Mulholland, Swifts Meuse, Carlisle, Gelding, "The Badger."
5. George L. Gillespie, Campfield, Falkirk.

Thursday, 19th July.

CLASS 2. HORSE or PONY, any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in Class 1.—Premiums, £10, £8, £5, £3, and £2.

1. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Rufus."
2. James Nodwell, New George Hotel, Dumfries, Gelding, "High Life."
3. Simon Andrews & Sons, Cardonald Grain Mills, Paisley, Gelding, "Ping Pong."
4. George L. Gillespie, Campfield, Falkirk, Gelding, "Star."
5. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Greybird."

Friday, 20th July.

CLASS 3. HORSE or PONY, any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in either of Classes 1 or 2—4 inches extra for the winner of the two first prizes in Classes 1 and 2.—Premiums, £10, £8, £5, £3, and £2.

1. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Rufus."
2. Simon Andrews & Sons, Cardonald Grain Mills, Paisley, Gelding, "Ping Pong."
3. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Greybird."
4. J. N. Carnegie, Pitcorthie, Colinsburgh, Gelding, "The Dodger."
5. James Nodwell, New George Hotel, Dumfries, Gelding, "Harry Wheeler."

Champion Prize of £10 for most points in Prizes with one or more Horses in above Classes—First Prize to count five points; Second Prize, four points; Third Prize, three points; Fourth Prize, two points; and Fifth Prize, one point—the money to be evenly divided in the event of a tie.

F. V. Grange, Oak House, Farndon, Cheshire.

SHEEP

BLACKFACE.

PRESIDENT'S CHAMPION MEDAL for best Pen of Blackface Sheep.

No. 527 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.

Champion Prize, value £10, for best Blackface Tup in Classes 77 and 78,—give by Mr C. Howatson of Glenbuck.

No. 527 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.

The Sinclair Scott Challenge Trophy, value 100 guineas, for a Group of Sheep consisting of one Aged Ram, one Shearling Ram, one Ewe and Lamb, the Lamb to be the produce of the Ewe exhibited, and may be either a Tup or Ewe Lamb, and to be judged as part of the Group, and one Gimmer—All to be bred by and the property of the exhibitor, or bred on the farm now in his possession and the property of the exhibitor, and shown in the ordinary classes; the Trophy to become the property of the exhibitor winning it three times with different sheep; Lambs, Shearling Rams, and Gimmers being eligible to compete again. Given by the late Mr R. Sinclair Scott of Burnside.
A Silver Medal, commemorative of the event, will be presented by the Society to the winner on each occasion.

Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.

CLASS 77. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

- 1st No. 514 James Clark, Crossflat, Muirkirk, "Heather Bell."
- 2nd No. 515 Matthew G. Hamilton, Woolfords, Cobbinshaw.
- 3rd No. 512 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
- 4th No. 516 Charles Howatson of Glenbuck.
- V No. 518 Col. R. C. Mackenzie of Edinbarnet, Duntocher.
- H No. 513 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
- C No. 517 D. A. MacArthur, Nunnerie, Abington.

CLASS 78. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

- 1st No. 527 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
- 2nd No. 523 Robert Buchanan, Blairquhosh, Strathblane.
- 3rd No. 525 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
- 4th No. 543 Charles Howatson of Glenbuck.
- V No. 540 Matthew G. Hamilton, Woolfords, Cobbinshaw.
- H No. 539 Matthew G. Hamilton, Woolfords, Cobbinshaw.
- C No. 537 James Hamilton, Nether Wellwood, Muirkirk.

CLASS 79. EWE, above one Shear, with her Lamb at foot.—
 Premiums, £10, £5, and £2.

- 1st No. 567 Charles Howatson of Glenbuck.
- 2nd No. 563 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
- 3rd No. 572 John Robson, Newton, Bellingham.
- V No. 568 Charles Howatson of Glenbuck.
- H No. 565 James Clark, Crossflat, Muirkirk.
- C No. 562 Cadzow Brothers, Borland and Stonehill, Carstairs Junction.
- C No. 564 James Clark, Crossflat, Muirkirk.

CLASS 80. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

- 1st No. 583 A. & D. M'Dougall, Claggan, Killin.
- 2nd No. 584 John Millar, Lambhill, Strathaven.
- 3rd No. 574 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
- V No. 580 Charles Howatson of Glenbuck.
- H No. 585 Wm. Mitchell, Hazelside, Douglas, N.B.
- C No. 582 A. & D. M'Dougall, Claggan, Killin.
- C No. 586 John Robson, Newton, Bellingham.

CHEVIOT.

PRESIDENT'S CHAMPION MEDAL for best Pen of Cheviot Sheep.

No. 605 John Elliot, Hindhope, Jedburgh.

Challenge Cup, value £25, for best Sheep in the Cheviot Classes,—given by the Cheviot Sheep Society.

No. 605 John Elliot, Hindhope, Jedburgh.

CLASS 81. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

- 1st No. 596 Jacob Robson, Byrness, Otterburn, Northumberland, "Lanercost."
 2nd No. 590 John Elliot, Hindhope, Jedburgh.
 3rd No. 601 J. R. C. Smith, Mowhaugh, Yetholm, "John Knox."
 4th No. 595 James Moffat, Craick, Hawick, "Goldfinder."
 V No. 593 Thomas Elliot, Attonburn, Kelso.
 H No. 591 John Elliot, Hindhope, Jedburgh.
 C No. 594 Thomas Elliot, Attonburn, Kelso.

CLASS 82. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

- 1st No. 605 John Elliot, Hindhope, Jedburgh.
 2nd No. 612 Jacob Robson, Byrness, Otterburn, Northumberland.
 3rd No. 615 John Robson, Newton, Bellingham.
 4th No. 607 John Elliot, Hindhope, Jedburgh.
 V No. 617 J. R. C. Smith, Mowhaugh, Yetholm.
 H No. 606 John Elliot, Hindhope, Jedburgh.
 C No. 613 Jacob Robson, Byrness, Otterburn, Northumberland.

CLASS 83. EWE, above one Shear, with her Lamb at foot.—
Premiums, £10, £5, and £2.

- 1st No. 623 Jacob Robson, Byrness, Otterburn, Northumberland.
 2nd No. 619 John Elliot, Hindhope, Jedburgh.
 3rd No. 622 Jacob Robson, Byrness, Otterburn, Northumberland.
 V No. 625 John Robson, Newton, Bellingham.
 H No. 620 James Moffat, Craick, Hawick, "Her Majesty."
 C No. 626 A. & Jas. K. Smith, Leaston, Upper Keith.

CLASS 84. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

- 1st No. 628 John Elliot, Hindhope, Jedburgh.
 2nd No. 633 John Robson, Newton, Bellingham.
 3rd No. 633 J. R. C. Smith, Mowhaugh, Yetholm.
 V No. 632 John Robson, Newton, Bellingham.
 H No. 636 J. R. C. Smith, Mowhaugh, Yetholm.
 C No. 629 Jacob Robson, Byrness, Otterburn, Northumberland.

BORDER LEICESTER.

PRESIDENT'S CHAMPION MEDAL for best Pen of Border Leicesters.

- No. 644 Robert Taylor, Pitlivie, Carnoustie.

Tweeddale Gold Medal for best Border Leicester Tup.

- No. 644 Robert Taylor, Pitlivie, Carnoustie, "Pitlivie Brilliant."

Prize of £10 for best Pen of Border Leicester Sheep, drawn from the Ordinary Classes, registered or eligible for registration in the Border Leicester Flock-Book,—given by the Society of Border Leicester Sheep-Breeders.

- No. 644 Robert Taylor, Pitlivie, Carnoustie.

CLASS 85. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

- 1st No. 644 Robert Taylor, Pitlivie, Carnoustie, "Pitlivie Brilliant."
 2nd No. 643 T. McIntosh, Knowhead, Brechin.
 3rd No. 642 G. & J. Fairbairn, Middle Quarter and Walterstead, Carlisle.
 4th No. 641 Andrew Dun, Laidlawstiel, Galashiels, "Prime Favourite" (1911).

CLASS 86. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

- 1st No. 661 David Hume, Barrelwell, Brechin.
 2nd No. 666 J. & J. R. C. Smith, Galalaw, Kelso.
 3rd No. 670 Robert Wallace, Auchendrain, Mauchline.
 4th No. 667 J. & J. R. C. Smith, Galalaw, Kelso.
 V No. 663 David Hume, Barrelwell, Brechin.
 H No. 649 A. Cameron & Sons, Westside Farm, Brechin, N.B.
 C No. 647 The Duke of Buccleuch, K.G., Dalkeith Park, Dalkeith.

CLASS 87. EWE, above one Shear.—Premiums, £10, £5, and £2.

- 1st No. 681 J. & J. R. C. Smith, Galalaw, Kelso.
 2nd No. 672 The Right Hon. A. J. Balfour, M.P., Whittingehame, Prestonkirk.
 3rd No. 676 W. S. Ferguson, Kinochtry, Coupar-Angus.
 V No. 678 David Hume, Barrelwell, Brechin.
 H No. 674 The Duke of Buccleuch, K.G., Dalkeith Park, Dalkeith.
 C No. 675 G. & J. Fairbairn, Middle Quarter and Walterstead, Carlisle.

CLASS 88. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

- 1st No. 692 David Hume, Barrelwell, Brechin.
 2nd No. 693 J. Ernest Kerr, Harviestoun Castle, Dollar.
 3rd No. 689 James Findlay, Newmill of Craigeassie, Forfar.
 V No. 697 J. & J. R. C. Smith, Galalaw, Kelso.
 H No. 690 William Ford, Fentonbarns, Drem.
 C No. 696 W. Cairns Moyes, Cairndrum, Brechin.

HALF-BRED.

PRESIDENT'S CHAMPION MEDAL for best Pen of Half-Breds.

- No. 714 John Mark, Sunnyside, Prestonkirk.

*Champion Prize, value £10, for the best pen of Half-bred Sheep in Classes 89-93,--
 given by the Peebles Co-Operative Society.*

- No. 714 John Mark, Sunnyside, Prestonkirk.

CLASS 89. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

- 1st No. 702 James A. W. Mein, Hunthill, Jedburgh.
 2nd No. 701 John Bertram, Addinston, Oxtou, N.B.

CLASS 90. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

- 1st No. 714 John Mark, Sunnyside, Prestonkirk.
 2nd No. 713 John Mark, Sunnyside, Prestonkirk.
 3rd No. 712 John Mark, Sunnyside, Prestonkirk.
 4th No. 709 Robert Dickinson, Longcroft, Oxtou, Berwickshire.
 V No. 707 Robert Dickinson, Longcroft, Oxtou, Berwickshire.
 H No. 706 Robert Dickinson, Longcroft, Oxtou, Berwickshire.
 C No. 708 Robert Dickinson, Longcroft, Oxtou, Berwickshire.

CLASS 91. EWE, above one Shear.—Premiums, £10, £5, and £2.

- 1st No. 721 W. C. Ritchie, Lyne, Stobo, Peeblesshire.
 2nd No. 722 W. C. Ritchie, Lyne, Stobo, Peeblesshire.
 3rd No. 723 A. & Jas. K. Smith, Leaston, Upper Keith.
 H No. 724 A. & Jas. K. Smith, Leaston, Upper Keith.

CLASS 92. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

- 1st No. 726 James A. W. Mein, Hunthill, Jedburgh.
 2nd No. 727 A. & Jas. K. Smith, Leaston, Upper Keith.
 3rd No. 725 James A. W. Mein, Hunthill, Jedburgh.
 H No. 728 A. & Jas. K. Smith, Leaston, Upper Keith.

CLASS 93. THREE EWE LAMBS.—Premiums, £10, £5, £3, and £2.

- 1st No. 734 James A. W. Mein, Hunthill, Jedburgh.
 2nd No. 737 A. & Jas. K. Smith, Leaston, Upper Keith.
 3rd No. 733 Simon Linton, Oakwood, Selkirk.
 4th No. 736 William Pringle, Temple Farm, Gorebridge.
 H No. 730 Andrew Dun, Laidlawstiel Farm, Galashiels.
 C No. 732 Simon Linton, Oakwood, Selkirk.

SHROPSHIRE.

PRESIDENT'S CHAMPION MEDAL for best Pen of Shropshires.

- No. 740 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.

CLASS 94. TUP, above one Shear.—Premiums, £6, £4, and £2.

- 1st No. 740 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
 2nd No. 739 Thomas A. Buttar, Corston, Coupar-Angus.

CLASS 95. SHEARLING TUP.—Premiums, £6, £4, and £2.

- 1st No. 743 Thomas A. Buttar, Corston, Coupar-Angus.
 2nd No. 744 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
 3rd No. 741 Thomas A. Buttar, Corston, Coupar-Angus.
 H No. 745 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
 C No. 742 Thomas A. Buttar, Corston, Coupar-Angus.

CLASS 96. EWE, above one Shear.—Premiums, £5, £3, and £2.

- 1st No. 748 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
 2nd No. 746 Thomas A. Buttar, Corston, Coupar-Angus.
 3rd No. 747 Thomas A. Buttar, Corston, Coupar-Angus.

CLASS 97. SHEARLING EWE or GIMMER.—Premiums, £5, £3, and £2.

- 1st No. 752 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
 2nd No. 749 Thomas A. Buttar, Corston, Coupar-Angus.
 3rd No. 750 Thomas A. Buttar, Corston, Coupar-Angus.
 H No. 751 Thomas A. Buttar, Corston, Coupar-Angus.

OXFORD DOWNS.

PRESIDENT'S CHAMPION MEDAL for best Pen of Oxford Downs.

- No. 761 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.

CLASS 98. SHEARLING TUP.—Premiums, £6, £4, and £2.

- 1st No. 761 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
 2nd No. 762 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
 3rd No. 763 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
 V No. 756 Andrew S. Elliot, Hollybush, Galashiels.
 H No. 764 W. C. Ritchie, Lyne, Stobo, Peeblesshire, "Golden Hoof."
 C No. 765 W. C. Ritchie, Lyne, Stobo, Peeblesshire, "Golden Fleece."

CLASS 99. SHEARLING EWE or GIMMER.—Premiums, £5, £3, and £2.

- 1st No. 772 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
 2nd No. 771 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
 3rd No. 773 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
 V No. 768 Andrew S. Elliot, Hollybush, Galashiels.
 H No. 767 The Right Hon. A. J. Balfour, M.P., Whittingehame, Prestonkirk.
 C No. 769 Andrew S. Elliot, Hollybush, Galashiels.

SUFFOLK.

PRESIDENT'S CHAMPION MEDAL for best Pen of Suffolk Sheep.

No. 786 William Ford, Fentonbarns, Drem.

CLASS 100 SHEARLING TUP.—Premiums, £6, £4, and £2.

1st No. 774 Alexander Anderson, Berryhill, Dundee.

Best Suffolk Ewe in Class 101 bred in Scotland—£3; second best ditto, £2.
Given by the Suffolk Sheep Society.

1st No. 779 William Ford, Fentonbarns, Drem.

2nd No. 778 William Ford, Fentonbarns, Drem.

CLASS 101. SHEARLING EWE or GIMMER.—Premiums, £5, £3, and £2.

1st No. 779 William Ford, Fentonbarns, Drem.

2nd No. 777 Alex. Anderson, Berryhill, Dundee.

3rd No. 778 William Ford, Fentonbarns, Drem.

H No. 776 Alex. Anderson, Berryhill, Dundee.

Best Pen of Suffolk Ewe Lambs in Class 102 bred in Scotland—£3; second best ditto, £2. Given by the Suffolk Sheep Society.

1st No. 786 William Ford, Fentonbarns, Drem.

2nd No. 787 William Kennedy, Luce Mains, Ecclefechan.

CLASS 102. THREE EWE LAMBS, uncoloured and untrimmed, except as to the squaring of the tail.—Premiums, £5, £3, and £2, given by the Suffolk Sheep Society.

1st No. 786 William Ford, Fentonbarns, Drem.

2nd No. 787 William Kennedy, Luce Mains, Ecclefechan.

3rd No. 785 Alex. Anderson, Berryhill, Dundee.

FAT SHEEP.

Best Pens of Lambs in Class 103 out of Blackface Ewes, and got by Border Leicester Tup.—Prizes of £5, £3, and £2, given by Mr M. G. Thorburn.

1st No. 797 David Hunter of Machiehill, Lamancha (Border Leicester Tup and Blackfaced Ewes).

2nd No. 795 F. W. Dyson, Chapelhill, Peebles (Border Leicester Ram and Blackfaced Ewes).

3rd No. 798 David Hunter of Machiehill, Lamancha (Border Leicester Tup and Blackfaced Ewes).

Best Pens of Cross-bred Lambs in Class 103 got by a Pure-bred Shropshire Tup.—Prizes of £7 and £3, given by the Shropshire Sheep-Breeders' Association.

1st No. 793 Alex. Brown, Incharvie, Kilconquhar, Fifeshire (Shropshire Tup and Half-bred and Cross Ewes).

2nd No. 792 Alex. Brown, Incharvie, Kilconquhar, Fifeshire (Shropshire Tup and Half-bred and Cross Ewes).

Best Pen of Lambs in Class 103 got by a Suffolk Tup, and out of Cheviot or Blackface Ewes.—Prize of £5, given by the Suffolk Sheep Society.

No Award.

Best Pen of Lambs in Class 103 got by a Suffolk Tup, and out of Border Leicester, Half-bred, or Three-parts-bred Ewes.—Prize of £5, given by the Suffolk Sheep Society.

1st No. 796 William Ford, Fentonbarns, Drem (Suffolk Tup and Half-bred Ewes).

Best Pens of Lambs in Class 103 got by an Oxford Down Tup.—Prizes of £5, £3, and £2, given by the Oxford Down Sheep-Breeders' Association, and Messrs Ritchie, Lyne, and Elliot, Hollybush.

1st No. 799 George Pendreigh, Dalhousie, Bonnyrigg (Oxford Down Tup and Border Leicester Ewes).

2nd No. 789 Alex. Anderson, Berryhill, Dundee (Oxford Down Tup and Hampshire Down Ewes).

3rd No. 790 Alex. Anderson, Berryhill, Dundee (Oxford Down Tup and Hampshire Down Ewes).

CLASS 103. Three FAT LAMBS, any Breed or Cross, dropped in the year of the Show.—Premiums, £5 and £3.

1st No. 799 George Pendreigh, Dalhousie, Bonnyrigg (Oxford Down Tup and Border Leicester Ewes).

2nd No. 797 David Hunter of Macbiehill, Lamancha (Border Leicester Tup and Blackfaced Ewes).

V No. 789 Alex. Anderson, Berryhill, Dundee (Oxford Down Tup and Hampshire Down Ewes).

H No. 796 William Ford, Fentonbarns, Drem (Suffolk Tup and Half-bred Ewes).

C No. 795 F. W. Dyson, Chapelhill, Peebles (Border Leicester Ram and Blackfaced Ewes).

EXTRA STOCK.

The following was Commended, and a Bronze Medal awarded—

No. 801 Alex. Brown, Incharvie, Kileconquhar, Fifeshire (Cross Hogs: Shropshire Tup and Blackfaced Ewes).

The following was Very Highly Commended, and a Medium Silver Medal awarded—

No. 802 J. C. Ewart, Duddingston House, Mid-Lothian (St Kilda female with twin lambs by Blackfaced Ram).

SWINE

PRESIDENT'S CHAMPION MEDAL for best Pen of Swine.

No. 806 David W. Gunn, Craigcrook Farm, Blackhall, Edinburgh, "Walton Beauty" (13,038).

LARGE WHITE BREED.

CLASS 104. BOAR.—Premiums, £6, £4, and £2.

1st No. 803 R. R. Rothwell, Fullwood Hall Farm, Preston, "Sprucefield Premier" (1515).

2nd No. 805 William B. Wallace, Broomhouse, Corstorphine, Mid-Lothian, "Broomhouse Hercules" (9031).

3rd No. 804 Thomas Simpson, Duddingston, Portobello, "Royal Stewart" (7893).

CLASS 105. SOW.—Premiums, £6, £4, and £2.

- 1st No. 806 David W. Gunn, Craigerook Farm, Blackhall, Edinburgh, "Walton Beauty" (18,088).
 2nd No. 807 R. Millington Knowles, Colston Basset Hall, Bingham, Notts., "Colston Lass XIV." (15,564).
 3rd No. 808 R. R. Rothwell, Fullwood Hall Farm, Preston, "Fullwood Empress I." (15,720).
 H No. 810 Thomas Simpson, Duddingston, Portobello, "Colston Lady Snow VII." (15,556).

CLASS 106. Pair of BOARS, not above 8 months old.—Premiums, £5, £3, and £2.

- 1st No. 813 William B. Wallace, Broomhouse, Corstorphine, Mid-Lothian.

CLASS 107. Pair of GELTS, not above 8 months old.—Premiums, £5, £3, and £2.

- 1st No. 817 R. R. Rothwell, Fullwood Hall Farm, Preston.
 2nd No. 815 David W. Gunn, Craigerook Farm, Blackhall, Edinburgh.
 3rd No. 818 Thomas Simpson, Duddingston, Portobello.
 H No. 816 R. Millington Knowles, Colston Basset Hall, Bingham, Notts.
 H No. 819 A. E. Todd, Stoneybank, Musselburgh.

BERKSHIRE.

CLASS 108. BOAR.—Premiums, £6, £4, and £2.

- 1st No. 821 L. Currie, Minley Manor, Farnborough, Hants, "Polegate Dandy" (10,378).
 2nd No. 823 The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Dictator" (10,388).
 3rd No. 824 J. Jefferson, Peel Hall, Chester, "Lynham Lad" (9506).
 H No. 822 The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Decimal" (9814).
 C No. 825 J. Jefferson, Peel Hall, Chester, "Peel Augustus" (11,269).

CLASS 109. SOW.—Premiums, £6, £4, and £2.

- 1st No. 831 J. Jefferson, Peel Hall, Chester, "Peel Melon" (11,262).
 2nd No. 829 The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Disdainful Lady" (10,389).
 3rd No. 828 The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Dovecote" (9819).
 H No. 827 L. Currie, Minley Manor, Farnborough, Hants, "Minley Belle."
 H No. 830 J. Jefferson, Peel Hall, Chester.

CLASS 110. Pair of BOARS, not above 8 months old.—Premiums, £5, £3, and £2.

- 1st No. 835 J. Jefferson, Peel Hall, Chester.
 2nd No. 833 The Duchess of Devonshire, Compton Place, Eastbourne.
 3rd No. 832 The Duchess of Devonshire, Compton Place, Eastbourne.
 H No. 834 The Duchess of Devonshire, Compton Place, Eastbourne.

CLASS 111. Pair of GELTS, not above 8 months old.—Premiums, £5, £3, and £2.

- 1st No. 837 The Duchess of Devonshire, Compton Place, Eastbourne.
 2nd No. 836 L. Currie, Minley Manor, Farnborough, Hants.
 3rd No. 841 J. Jefferson, Peel Hall, Chester.
 H No. 842 J. Jefferson, Peel Hall, Chester.

POULTRY

First Premium—*One Sovereign*. Second Premium—*Ten Shillings*. Where there are Six or more Entries, Third Premium—*Five Shillings*.

CHAMPION MEDALS.

1. *Best Cock, any variety.*

No. 312 Dr J. K. Goodall, Brimington, Chesterfield (Indian Game).

2. *Best Hen, any variety.*

No. 163 F. Whitaker, Brook Royde, Weeton, Leeds (Minorca).

3. *Best Cockerel, any variety.*

No. 295 John Wharton, Honeycote Farm, Hawes, Yorks. (Wyandotte Partridge).

4. *Best Pullet, any variety.*

No. 23 J. A. & M. F. Smyth, The Lodge, Coleraine, Ireland (Dorking).

5. *Best Pen of Ducks.*

No. 402 The Countess of Home, The Hirsal, Coldstream (Aylesbury Drake).

6. *Best Pen of Geese.*

No. 430 W. Woods, auctioneer, Worksop (Toulouse Gander).

7. *Best Pen of Turkeys.*

No. 432 Lord Leith of Fyvie, Fyvie Castle, Fyvie (Bronze Cock)

CLASS 1. DORKING—Coloured. Cock.

1st No. 4 C. Sneddon, Ribby Road, Kirkham, Lancs.
 2nd No. 5 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
 V No. 1 Chas. Aitkenhead, Stud Farm, Seaham Harbour.
 H No. 2 The Countess of Home, The Hirsal, Coldstream.
 C No. 3 Alex. Shanks, Outhelton Farm, Denny.

CLASS 2. DORKING—Coloured. Hen.

1st No. 6 Chas. Aitkenhead, Stud Farm, Seaham Harbour.
 2nd No. 9 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
 V No. 8 C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 3. DORKING—Coloured. Cockerel.

1st No. 14 Robt. Jackson, Dawdon Hill Farm, Seaham Harbour.
 2nd No. 15 C. Sneddon, Ribby Road, Kirkham, Lancs.
 3rd No. 16 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
 V No. 12 Mrs A. W. Farquhar, St Margaret's, Bridge of Weir.

CLASS 4. DORKING—Coloured. Pullet.

1st No. 23 J. A. & M. F. Smyth, The Lodge, Coleraine, Ireland.
 2nd No. 24 C. Sneddon, Ribby Road, Kirkham, Lancs.
 3rd No. 20 The Countess of Home, The Hirsal, Coldstream.
 V No. 18 Alex. Cross of Knockdon, Maybole.
 H No. 19 Mrs A. W. Farquhar, St Margaret's, Bridge of Weir.
 C No. 22 Robt. Jackson, Dawdon Hill Farm, Seaham Harbour.
 C No. 25 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.

CLASS 5. DORKING—Silver Grey. Cock.

- 1st No. 27 George Duncan, Countesswells, Aberdeenshire.
 2nd No. 26 Chas. Aitkenhead, Stud Farm, Seaham Harbour.
 3rd No. 29 Arthur C. Major, Ditton, Langley, Bucks., Slough.
 V No. 31 C. Sneddon, Ribby Road, Kirkham, Lancs.
 H No. 30 James Shanks, Cuthelton Farm, Denny.
 C No. 28 James Logan, East Linton, Prestonkirk.

CLASS 6. DORKING—Silver Grey. Hen.

- 1st No. 34 Arthur C. Major, Ditton, Langley, Bucks., Slough.
 2nd No. 37 C. Sneddon, Ribby Road, Kirkham, Lancs.
 V No. 33 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
 H No. 35 John Mechie, jun., miller, Auchtermuchty, Fife.
 C No. 36 James Shanks, Cuthelton Farm, Denny.

CLASS 7. DORKING—Silver Grey. Cockerel.

- 1st No. 40 Alex. Cross of Knockdon, Maybole.
 2nd No. 45 Arthur C. Major, Ditton, Langley, Bucks., Slough.
 3rd No. 42 John P. Harle, East Craigie, Cramond Bridge.
 V No. 43 The Countess of Home, The Hirsle, Coldstream.
 H No. 41 Alex. Cross of Knockdon, Maybole.
 C No. 46 C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 8. DORKING—Silver Grey. Pullet.

- 1st No. 53 Arthur C. Major, Ditton, Langley, Bucks., Slough.
 2nd No. 48 Alex. Cross of Knockdon, Maybole.
 3rd No. 49 Alex. Cross of Knockdon, Maybole.
 V No. 54 C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 9. COCHIN-CHINA. Cock.

- 1st No. 56 George Archibald, Blebo Crags, Cupar-Fife.
 2nd No. 57 John Ferguson, 7 North Inglis Street, Dunfermline.
 V No. 59 Wm. Lockhart, Marsh Cottage, Canonbie.
 H No. 58 Mrs Hendrie, Flowerdale, Steps Road, nr. Glasgow.
 C No. 60 T. S. Macfarlane, Underwood Road Dye Works, Paisley.

CLASS 10. COCHIN-CHINA. Hen.

Not forward.

CLASS 11. BRAHMAPOOTRA. Cock.

- 1st No. 63 George Archibald, Blebo Crags, Cupar-Fife.

CLASS 12. BRAHMAPOOTRA. Hen.

Not forward.

CLASS 13. BRAHMA or COCHIN. Cockerel.

- 1st No. 67 John Ferguson, 7 North Inglis Street, Dunfermline (Cochin).
 2nd No. 70 Mrs Inglis, Watchhill, Canonbie (Cochin).
 3rd No. 66 A. K. Orichton, Estates Office, Bridge of Weir (Cochin Partridge).
 V No. 68 John Ferguson, 7 North Inglis Street, Dunfermline (Cochin).
 H No. 65 George Archibald, Blebo Crags, Cupar-Fife (Cochin).

CLASS 14. BRAHMA or COCHIN. Pullet.

- 1st No. 75 Mrs Inglis, Watchhill, Canonbie (Cochin).
 2nd No. 73 John Ferguson, 7 North Inglis Street, Dunfermline (Cochin).
 3rd No. 76 Mrs Inglis, Watchhill, Canonbie (Cochin).
 V No. 72 A. K. Orichton, Estates Office, Bridge of Weir (Cochin).
 H No. 71 George Archibald, Blebo Crags, Cupar-Fife (Cochin).

CLASS 15. SCOTCH GREY. Cock.

- 1st No. 82 Alex. Ollar, Kilkerran Cottage, Campbeltown.
 2nd No. 77 John Carswell, 148 Graham's Road, Falkirk.
 3rd No. 80 David Hastings, Glaister Cottage, Darvel.
 V No. 79 John Cunningham, Mill Bank, Dregghorn.
 H No. 81 David Hunter of Macbiehill, Lamancha.

CLASS 16. SCOTCH GREY. Hen.

- 1st No. 84 John Cunningham, Mill Bank, Dregghorn.
 2nd No. 86 Alex. Ollar, Kilkerran Cottage, Campbeltown.
 V No. 83 John Carswell, 148 Graham's Road, Falkirk.

CLASS 17. SCOTCH GREY. Cockerel.

- 1st No. 98 Andrew Todd, Woodside, Tullibody.
 2nd No. 88 John Carswell, 148 Graham's Road, Falkirk.
 3rd No. 92 Alex. Ollar, Kilkerran Cottage, Campbeltown.
 V No. 87 John Carswell, 148 Graham's Road, Falkirk.
 H No. 89 John Craig, Faulds Cottage, Dregghorn, Ayrshire.
 C No. 90 James Grainger, 161 Graham's Road, Falkirk.

CLASS 18. SCOTCH GREY. Pullet.

- 1st No. 96 Chas. Douglas, Auchlochan, Lesmahagow.
 2nd No. 94 John Carswell, 148 Graham's Road, Falkirk.
 V No. 93 Alex. Ollar, Kilkerran Cottage, Campbeltown.
 H No. 95 John Carswell, 148 Graham's Road, Falkirk.
 C No. 97 James Grainger, 161 Graham's Road, Falkirk.

CLASS 19. HAMBURG—Black. Cock.

- 1st No. 101 Henry Pickles, Kayfield House, Earby.
 2nd No. 99 W. Bentley, Timinetta, Honley, Huddersfield.
 V No. 100 John Goodfellow, 20 Short Lane, Cupar-Fife.

CLASS 20. HAMBURG—Black. Hen.

- 1st No. 104 Henry Pickles, Kayfield House, Earby.
 2nd No. 102 W. Bentley, Timinetta, Honley, Huddersfield.
 V No. 103 The Countess of Home, The Hirsell, Coldstream.

CLASS 21. HAMBURG—Any other Variety. Cock.

- 1st No. 107 Henry Pickles, Kayfield House, Earby (Silver-spangled).
 2nd No. 109 Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Silver-pencilled).
 V No. 108 Henry Pickles, Kayfield House, Earby (Silver-spangled).
 H No. 105 Maurice Jackson, High Green Farm, Silsden, near Keighley (Silver-pencilled).
 C No. 106 D. K. Livingston, Bridge of Earn (Gold-pencilled).

CLASS 22. HAMBURG—Any other Variety. Hen.

- 1st No. 113 Henry Pickles, Kayfield House, Earby (Silver-spangled).
 2nd No. 114 Henry Pickles, Kayfield House, Earby (Silver-pencilled).
 3rd No. 110 A. C. Hilston, Wingfield, Strathaven (Gold-pencilled).
 V No. 112 D. K. Livingston, Bridge of Earn (Gold-pencilled).
 H No. 116 Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Silver-spangled).
 C No. 115 Wm. Smith, Kirk Wynd, Selkirk (Gold-pencilled).

CLASS 23. HAMBURG—Any Variety. Cockerel.

- 1st No. 119 Henry Pickles, Kayfield House, Earby (Gold-spangled).
 2nd No. 117 Maurice Jackson, High Green Farm, Silsden, near Keighley (Silver-pencilled).
 V No. 118 Maurice Jackson, High Green Farm, Silsden, near Keighley (Gold-pencilled).
 H No. 120 Henry Pickles, Kayfield House, Earby (Black).

CLASS 24. HAMBURG—Any Variety. Pullet.

- 1st No. 125 Henry Pickles, Kayfield House, Earby (Silver-spangled).
 2nd No. 124 Maurice Jackson, High Green Farm, Silsden, near Keighley (Gold-pencilled).
 3rd No. 123 Maurice Jackson, High Green Farm, Silsden, near Keighley (Gold-pencilled).
 V No. 122 A. C. Hilston, Wingfield, Strathaven (Gold-pencilled).
 H No. 121 A. C. Hilston, Wingfield, Strathaven (Gold-pencilled).
 C No. 126 Henry Pickles, Kayfield House, Earby (Gold-pencilled).

CLASS 25. PLYMOUTH ROCK. Cock.

- 1st No. 130 Lord Leith of Fyvie, Fyvie Castle, Fyvie.
 2nd No. 131 Mrs John Whitehead, 14 Tower Street, Selkirk.
 V No. 127 Wm. Abbot, 37 Victoria Street, Hunterfield, Arncliffe, Gorebridge.
 H No. 129 Frank Anderson, Townhead, Biggar.
 C No. 123 Frank Anderson, Townhead, Biggar.

CLASS 26. PLYMOUTH ROCK. Hen.

- 1st No. 132 Frank Anderson, Townhead, Biggar.

CLASS 27. PLYMOUTH ROCK. Cockerel.

- 1st No. 134 Lord Leith of Fyvie, Fyvie Castle, Fyvie.
 2nd No. 133 Lord Leith of Fyvie, Fyvie Castle, Fyvie.
 V No. 135 L. H. & J. Nutter, Burton, Carnforth.

CLASS 28. PLYMOUTH ROCK. Pullet.

- 1st No. 137 John Gillespie, Wyndhead, Lauder.
 2nd No. 138 Harry Munro, Golf Inn, Bishopston.

CLASS 29. MINORCA. Cock.

- 1st No. 145 Robert Mitchell, Fowler Farm, Mauchline.
 2nd No. 143 James Stark, 37 Waterloo Road, Lanark.
 3rd No. 140 Wm. Binnie, Woodlands, Kilsyth.
 V No. 142 The Countess of Home, The Hirsell, Coldstream.
 V No. 150 F. Whitaker, Brook Royde, Weston, near Leeds.
 H No. 146 John Rickerby, Monkhill Mill, Carlisle.
 C No. 144 J. Ewart M'Jarrow, Lockerbie.

CLASS 30. MINORCA. Hen.

1st	No. 163	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 152	Wm. Binnie, Woodlands, Kilsyth.
3rd	No. 158	Robert Mitchell, Fowler Farm, Mauchline.
V	No. 155	John Graham, Kirkfield Smithy, Lanark.
V	No. 161	James Stark, 37 Waterloo Road, Lanark.
H	No. 156	James Howieson, Firdale, Causewayend, Linlithgow.
H	No. 162	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
C	No. 151	A. Beardsley, Balgray Tower, Springburn, Glasgow.

CLASS 31. MINORCA. Cockerel.

1st	No. 169	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 167	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
3rd	No. 165	Henry Dobson, Ribby Road, Kirkham, Lancs.
V	No. 164	James Clews, 79 High Street, Neilston.
H	No. 168	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.

CLASS 32. MINORCA. Pullet.

1st	No. 175	James Stark, 37 Waterloo Road, Lanark.
2nd	No. 171	Maurice Jackson, High Green Farm, Silsden, near Keighley.
3rd	No. 178	F. Whitaker, Brook Royde, Weeton, Leeds.
V	No. 174	Donald M'Phail, Mount Pleasant, Liberton, Mid-Lothian.
H	No. 177	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
C	No. 172	J. Ewart M'Jarrow, Lockarbie.

CLASS 33. LEGHORN—White. Cock.

1st	No. 181	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 179	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
V	No. 180	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.

CLASS 34. LEGHORN—White. Hen.

1st	No. 186	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 187	F. Whitaker, Brook Royde, Weeton, Leeds.
3rd	No. 184	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
V	No. 185	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
H	No. 182	John P. Harle, East Craigie, Cramond Bridge.
C	No. 183	James Howieson, Firdale, Causewayend, Linlithgow.

CLASS 35. LEGHORN—Any other Variety. Cock.

1st	No. 191	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Brown).
2nd	No. 192	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Pile).
V	No. 189	James M'Ewan, 59 M'Neil Street, Larkhall (Brown).
H	No. 190	William Morgan, Balcurnie, Windygates, Fife (Brown).
C	No. 188	Chas. Douglas, Auchlochan, Lesmahagow (Brown).

CLASS 36. LEGHORN—Any other Variety. Hen.

1st	No. 193	A. Carnduff, Crossarthurle Street, Barrhead (Brown).
2nd	No. 194	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Pile).

CLASS 37. LEGHORN—Any Variety. Cockerel.

1st	No. 198	F. Whitaker, Brook Royde, Weeton, Leeds (White).
2nd	No. 179	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).
V	No. 195	Alexander Cowe, 1 Castle Road, Ellon, N.B. (Black).
H	No. 196	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).

CLASS 38. LEGHORN. Any Variety. Pullet.

- 1st No. 204 F. Whitaker, Brooke Royde, Weston, Leeds (White).
 2nd No. 201 Henry Dobson, Ribby Road, Kirkham, Lancs. (White).
 3rd No. 203 Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).
 V No. 200 Alexander Cowe, 1 Castle Road, Ellon, N.B. (Black).
 H No. 202 Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).
 C No. 199 Hugh Borthwick, Shielgreen, Peebles (White).

CLASS 39. LANGSHAN. Cock.

- 1st No. 206 James Heggie, Central Lodge, Hartlepool, County Durham.
 2nd No. 205 Mrs Hart, Croft Terrace, Selkirk.

CLASS 40. LANGSHAN. Hen.

- 1st No. 207 Andrew Stillie, Heatherlie, Selkirk.

CLASS 41. LANGSHAN. Cockerel.

No Award.

CLASS 42. LANGSHAN. Pullet.

No Award.

CLASS 43. ORPINGTON—Black. Cock.

- 1st No. 213 Geo. Cooper, Woodlea, Dyce, Aberdeenshire.
 2nd No. 216 Robt. Paterson, Main Street, Busby.
 3rd No. 217 David Reid, Bayview, Portgordon.
 V No. 210 Baillie & Breingan, Beath Bleachfield, Cowdenbeath.
 H No. 211 A. Beardsley, Balgray Tower, Springburn, Glasgow.
 H No. 214 George Dalziel, Strath House Poultry Farm, Avonbridge.
 H No. 218 C. Sneddon, Ribby Road, Kirkham, Lancs.
 C No. 215 John Gillespie, Wyndhead, Lauder.
 C No. 219 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian

CLASS 44. ORPINGTON—Black. Hen.

- 1st No. 225 David Reid, Bayview, Portgordon.
 2nd No. 222 A. Beardsley, Balgray Tower, Springburn, Glasgow.
 3rd No. 226 C. Sneddon, Ribby Road, Kirkham, Lancs.
 V No. 221 Baillie & Breingan, Beath Bleachfield, Cowdenbeath.
 H No. 228 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
 C No. 223 George Dalziel, Strath House Poultry Farm, Avonbridge.

CLASS 45. ORPINGTON—Buff. Cock.

- 1st No. 231 Wm. Morgan, Balcurvie, Windygates, Fife.
 2nd No. 233 Alex. Reith, Eddlewood, Ayr.
 3rd No. 232 David Reid, Bayview, Portgordon.
 V No. 235 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
 H No. 229 John Bryce, High Street, Freuchie, Fifeshire.
 C No. 230 Capt. J. Cunningham, Leithenhopes, Innerleithen.

CLASS 46. ORPINGTON—Buff. Hen.

- 1st No. 236 Geo. Cooper, Woodlea, Dyce, Aberdeenshire.
 2nd No. 238 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
 V No. 237 Capt. J. Cunningham, Leithenhopes, Innerleithen.

CLASS 47. ORPINGTON—Any Variety. Cockerel.

- 1st No. 241 A. K. Crichton, Estates Office, Bridge of Weir (Buff).
 2nd No. 242 George Dalziel, Strath House Poultry Farm, Avonbridge (Black).
 3rd No. 246 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks. (Buff).
 V No. 248 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian (Black).
 H No. 239 A. Beardsley, Balgray Tower, Springburn, Glasgow (Buff).
 C No. 245 C. Sneddon, Ribby Road, Kirkham, Lancs. (White).

CLASS 48. ORPINGTON—Any Variety. Pullet.

- 1st No. 267 Mrs John Whitehead, 14 Tower Street, Selkirk (Buff).
 2nd No. 252 Geo. Cooper, Woodlea, Dyce, Aberdeenshire (Buff).
 3rd No. 261 Jas. Murray, 2 Moss Row, Fordell, Crossgates (Black).
 V No. 263 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks. (Buff).
 V No. 266 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian (Buff).
 H No. 253 Alexander Cowe, 1 Castle Road, Ellon, N.B. (Buff).
 H No. 264 Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian (Black).
 C No. 259 Ralph D. Moore, Denehollow, Bearsden, near Glasgow (Black).

CLASS 49. WYANDOTTE—Gold. Cock.

- 1st No. 270 Wm. Morgan, Balcurvie, Windygates, Fife.
 2nd No. 271 Henry Pickles, Kayfield House, Earby.
 V No. 269 O. Duxbury, Carr's House, Barnoldswick, *via* Colne, Yorks.

CLASS 50. WYANDOTTE—Gold. Hen.

- 1st No. 275 Henry Pickles, Kayfield House, Earby.
 2nd No. 274 Wm. Morgan, Balcurvie, Windygates, Fife.
 V No. 273 O. Duxbury, Carr's House, Barnoldswick, *via* Colne, Yorks.
 H No. 272 O. Duxbury, Carr's House, Barnoldswick, *via* Colne, Yorks.

CLASS 51. WYANDOTTE—Silver. Cock.

- 1st No. 277 Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
 2nd No. 276 Henry Pickles, Kayfield House, Earby.

CLASS 52. WYANDOTTE—Silver. Hen.

- 1st No. 281 Henry Pickles, Kayfield House, Earby.
 2nd No. 280 William Morgan, Balcurvie, Windygates, Fife.
 V No. 282 Henry Pickles, Kayfield House, Earby.
 H No. 279 Fred. Argo, Market Place, Inverurie.
 C No. 278 Fred. Argo, Market Place, Inverurie.

CLASS 53. WYANDOTTE—Any Variety. Cockerel.

- 1st No. 295 John Wharton, Honeycott Farm, Hawes, Yorkshire (Partridge).
 2nd No. 236 O. Duxbury, Carr's House, Barnoldswick, *via* Colne, Yorks. (Gold).
 3rd No. 284 George Beveridge, Waterloo Place, Lauder (Golden).
 V No. 289 Lord Leith of Fyvie, Fyvie Castle, Fyvie (White).
 V No. 294 C. Sneddon, Ribby Road, Kirkham, Lancs. (Gold).
 H No. 291 Henry Maidment, Hayton Gate, Low Row, Carlisle (Silver).
 H No. 292 Henry Pickles, Kayfield House, Earby (Gold).
 C No. 285 O. Duxbury, Carr's House, Barnoldswick, *via* Colne, Yorks. (Gold).

CLASS 54. WYANDOTTE—Any Variety. Pullet.

- 1st No. 305 J. M. Philipson, Fell House, Haydon Bridge (Silver).
 2nd No. 299 O. Duxbury, Carr's House, Barnoldswick, *via* Colne, Yorks. (Gold).
 3rd No. 306 J. M. Philipson, Fell House, Haydon Bridge (Silver).
 V No. 303 Henry Maidment, Hayton Gate, Low Row, Carlisle (Silver).
 V No. 307 Henry Pickles, Kayfield House, Earby (Golden).
 H No. 297 George Beveridge, Waterloo Place, Lauder, N.B. (Golden).
 H No. 298 J. & D. Clarkson, Cormiston, Biggar (Partridge).
 H No. 310 John Wharton, Honeycott Farm, Hawes, Yorks. (Silver).
 C No. 296 Fred. Argo, Market Place, Inverurie (Silver-laced, black and white).

CLASS 55. GAME—Indian. Cock.

- 1st No. 312 Dr J. K. Goodall, Brimington, Chesterfield.
 2nd No. 316 John Pettigrew, Moss View, Dalmellington.
 3rd No. 315 James Murdoch, Mount Oliphant, Ayr.
 V No. 311 George Faulkner, Rowton, Chester.
 H No. 314 M'Murdo Brothers, Herbertshire Street, Denny.
 C No. 313 John T. Macfarlane, Gowanbrae, Bearsden, Glasgow.

CLASS 56. GAME—Indian. Hen.

- 1st No. 322 John Pettigrew, Moss View, Dalmellington.
 2nd No. 320 Dr J. K. Goodall, Brimington, Chesterfield.
 3rd No. 321 M'Murdo Bros., Herbertshire Street, Denny.
 V No. 318 George Faulkner, Rowton, Chester.
 H No. 317 Charles Douglas, Auchlochan, Lesmahagow.
 C No. 319 George Faulkner, Rowton, Chester.

CLASS 57. GAME—Indian. Cockerel.

- 1st No. 323 George Faulkner, Rowton, Chester.
 2nd No. 324 George Faulkner, Rowton, Chester.

CLASS 58. GAME—Indian. Pullet.

- 1st No. 326 George Faulkner, Rowton, Chester.
 2nd No. 325 George Faulkner, Rowton, Chester.

CLASS 59. GAME—Old English. Cock.

- 1st No. 329 Ralph D. Moore, Deneshollow, Bearsden, near Glasgow.
 2nd No. 328 John Hutt, Denend, Cardenden, Fife.
 3rd No. 330 Philip Pittman, 479 High Street, Kirkcaldy.
 V No. 327 John Hutt, Denend, Cardenden, Fife.
 H No. 331 Joseph Thorburn, Fernlea, Annan.

CLASS 60. GAME—Old English. Hen.

- 1st No. 334 Ralph D. Moore, Deneshollow, Bearsden, near Glasgow.
 2nd No. 335 Joseph Thorburn, Fernlea, Annan.
 V No. 332 John Hutt, Denend, Cardenden, Fife.
 H No. 333 John Hutt, Denend, Cardenden, Fife.

CLASS 61. GAME—Modern. Cock.

- 1st No. 339 Alex. Shepherd, Lily Cottage, Forfar (Black Red).
 2nd No. 336 John Borthwick, Garvald, Dolphinton (Brown Red).
 V No. 338 William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Black Red).
 H No. 340 C. Sneddon, Ribby Road, Kirkham, Lancs.
 C No. 337 William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Black Red).

CLASS 62. GAME—Modern. Hen.

- 1st No. 341 William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Black Red).
 2nd No. 342 C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 63. GAME—Any Variety, not including Indian. Cockerel.

Not forward.

CLASS 64. GAME—Any Variety, not including Indian. Pullet.

- 1st No. 344 C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).

CLASS 65. BANTAM—Game, any Variety, including Old English. Cock.

- 1st No. 350 C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
 2nd No. 347 Wm. Henderson, 41 Rumbling Well, Dunfermline (Pile).
 3rd No. 345 Wm. Coutts, jun., Rosemount, Forfar (Duckwing).
 V No. 349 C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
 H No. 351 H. Wilkie, Woodside, Markinch, Fife (Pile).

CLASS 66. BANTAM—Game, any Variety, including Old English. Hen.

- 1st No. 358 C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
 2nd No. 359 C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
 3rd No. 360 H. Wilkie, Woodside, Markinch, Fife (Pile).
 V No. 357 David Reid, Bayview, Portgordon (Duckwing).
 H No. 353 Wm. Henderson, 41 Rumbling Well, Dunfermline (Pile).
 C No. 355 William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Duckwing).

CLASS 67. BANTAM—Any other Variety. Cock.

- 1st No. 363 Lady Margaret Douglas Home, The Hirsell, Coldstream (Sebright).
 2nd No. 364 James M'Crae, 13 Thomson Street, Kilmarnock (Scotch Grey).
 V No. 365 Henry Pickles, Kayfield House, Earby (Black).
 H No. 361 George Gibb & Son, Maybank, East Calder (Black Rosecomb).
 C No. 362 Miss Rita Gray, Airlie, Bridge of Weir (Pekin).

CLASS 68. BANTAM—Any other Variety. Hen.

- 1st No. 369 James M'Crae, 13 Thomson Street, Kilmarnock (Scotch Grey).
 2nd No. 366 A. Canduff, Crossarthurle Street, Barrhead (Sebright).
 V No. 368 Lady Margaret Douglas Home, The Hirsell, Coldstream (Sebright).
 H No. 367 Miss Rita Gray, Airlie, Bridge of Weir (Pekin).

CLASS 69. Any other recognised Breed of Poultry. Cock.

- 1st No. 372 Alex. Ollar, Kilkerran Cottage, Campbeltown (Spanish).
 2nd No. 371 J. & D. Clarkson, Cormiston, Biggar (Wyandotte Partridge).
 3rd No. 375 Miss M. J. Thorburn, Craigerne, Peebles (Andalusian).
 V No. 370 F. Anderson, Highholm, Dunfermline (French Houdan, Black and White).

CLASS 70. Any other recognised Breed of Poultry. Hen.

- 1st No. 380 Alex. Ollar, Kilkerran Cottage, Campbeltown (Spanish).
 2nd No. 376 J. & D. Clarkson, Cormiston, Biggar (Wyandotte Partridge).
 3rd No. 381 Miss Alice Prior, Netherfield Park, Ware, Herts. (Andalusian).
 V No. 378 Mrs D. Mackenzie, Maryfield, Meigle (Spanish).
 H No. 377 John Macfarlane, Kilgraston, Bridge of Weir (Wyandotte Partridge).
 C No. 379 Mrs D. Mackenzie, Maryfield, Meigle (Spanish).

CLASS 71. Any other recognised Breed of Poultry. Cockerel.

- 1st No. 386 H. Wilkie, Woodside, Markinch, Fife (Pile).
 2nd No. 385 C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern Bantam).
 V No. 384 Mrs D. Mackenzie, Maryfield, Meigle (Spanish).
 H No. 383 Wm. Coutts, jun., Rosemount, Forfar (Pile).

CLASS 72. Any other recognised Breed of Poultry. Pullet.

- 1st No. 387 Wm. Coutts, jun., Rosemount, Forfar (Pile).
 2nd No. 388 C. Sneddon, Ribby Road, Kirkham, Lancs. (Houdan Bantam).
 V No. 389 H. Wilkie, Woodside, Markinch, Fife (Pile).

CLASS 73. TABLE FOWLS—Any Breed or Cross, to be judged solely as Table Fowls, and without regard to fancy points. Pair of Cockerels.

- 1st No. 395 The Countess of Home, The Hirsell, Coldstream (Indian Game and Dorking).
 2nd No. 396 Lady Alice Stanley, Cowarth Park, Sunningdale, Berks. (Cross Indian Game and Buff Orpington).
 3rd No. 393 Mrs A. W. Farquhar, St Margaret's, Bridge of Weir (D. Dorking and Buff Orpington).
 V No. 394 Robert S. Gray, Southfield, Duddingston (Cross Game).
 H No. 392 Alex. Davidson, Ladyurd, Dolphinton (Indian Game and Buff Orpington).
 C No. 391 Alex. Davidson, Ladyurd, Dolphinton (Indian Game and Buff Orpington).

CLASS 74. TABLE FOWLS—Any Breed or Cross, to be judged solely as Table Fowls, and without regard to fancy points. Pair of Pullets.

- 1st No. 398 The Countess of Home, The Hirsal, Coldstream (Indian Game and Dorking).
 2nd No. 399 C. Sneddon, Ribby Road, Kirkham, Lancs. (Indian Game Cross).
 V No. 397 Alex. Davidson, Ladyurd, Dolphinton (Indian Game and Buff Orpington).

CLASS 75. DUCKS—Aylesbury. Drake.

- 1st No. 402 The Countess of Home, The Hirsal, Coldstream.
 2nd No. 401 The Countess of Home, The Hirsal, Coldstream.
 V No. 400 W. B. Dickinson, Longcroft, Oxtou, Berwickshire.
 H No. 403 Miss J. Thorburn, Glenormiston, Innerleithen.

CLASS 76. DUCKS—Aylesbury. Duck.

- 1st No. 407 The Countess of Home, The Hirsal, Coldstream.
 2nd No. 408 The Countess of Home, The Hirsal, Coldstream.
 V No. 405 W. B. Dickinson, Longcroft, Oxtou, Berwickshire.
 H No. 406 W. B. Dickinson, Longcroft, Oxtou, Berwickshire.
 C No. 404 Captain J. Cunningham, Leithenhopcs, Innerleithen.

CLASS 77. DUCKS—Aylesbury. Drake (Young).

- 1st No. 410 The Countess of Home, The Hirsal, Coldstream.
 2nd No. 411 The Countess of Home, The Hirsal, Coldstream.
 V No. 409 W. B. Dickinson, Longcroft, Oxtou, Berwickshire.

CLASS 78. DUCKS—Aylesbury. Duck (Young).

- 1st No. 414 The Countess of Home, The Hirsal, Coldstream.
 2nd No. 415 The Countess of Home, The Hirsal, Coldstream.

CLASS 79. DUCKS—Rouen. Drake.

- 1st No. 416 The Countess of Home, The Hirsal, Coldstream.
 2nd No. 417 The Countess of Home, The Hirsal, Coldstream.

CLASS 80. DUCKS—Rouen. Duck.

- 1st No. 420 The Countess of Home, The Hirsal, Coldstream.
 2nd No. 421 Wm. Linton, Sloethorn Bank, Selkirk.
 V No. 419 The Countess of Home, The Hirsal, Coldstream.
 H No. 418 George Dalziel, Strath House Poultry Farm, Avonbridge.

CLASS 81. DUCKS—Any other Variety. Drake.

- 1st No. 423 Henry Maidment, Hayton Gate, Low Row, Carlisle (Indian Runner).
 2nd No. 422 James Logan, East Linton, Prestonkirk (Pekin).

CLASS 82. DUCKS—Any other Variety. Duck.

No Entry.

CLASS 83. DUCKS—Any Breed (Aylesbury excepted). Drake (Young).

- 1st No. 424 The Countess of Home, The Hirsal, Coldstream (Rouen).
 2nd No. 425 The Countess of Home, The Hirsal, Coldstream (Rouen).

CLASS 84. DUCKS—Any Breed (Aylesbury excepted). Duck (Young).

- 1st No. 426 The Countess of Home, The Hirsal, Coldstream (Rouen).
 2nd No. 427 The Countess of Home, The Hirsal, Coldstream (Rouen).

CLASS 85. GEESE. Gander.

- 1st No. 430 W. Woods, auctioneer, Worksop (Toulouse).
 2nd No. 429 A. E. Todd, Stoneybank, Musselburgh (Embsen).
 V No. 428 John Page, Waterside House, Callander (Embsen).

CLASS 86. GEESE. Goose.

- 1st No. 431 W. Woods, auctioneer, Worksop (Toulouse).

CLASS 87. TURKEYS. Cock.

- 1st No. 432 Lord Leith of Fyvie, Fyvie Castle, Fyvie (Bronze).
 2nd No. 434 Miss Shanks, Cuthelton Farm, Denny (Bronze).
 V No. 435 Miss J. Thorburn, Glenormiston, Innerleithen (Mammoth Bronze).

CLASS 88. TURKEYS. Hen.

- 1st No. 436 F. G. S. Rawson, Thorpe, Halifax (American Bronze).
 2nd No. 437 Miss Shanks, Cuthelton Farm, Denny (Bronze).
 V No. 438 Miss J. Thorburn, Glenormiston, Innerleithen (Bronze).

DAIRY PRODUCE

CLASS 1. POWDERED BUTTER, not less than 7 lb.—Premiums, £4, £2, and £1.

- 1st No. 10 William Rennie, Parkhead, Slamannan.
 2nd No. 5 Robert Gilmour, Stonebyres, Eaglesham.
 3rd No. 4 Andrew Fleming, Threepland, Eaglesham.
 V No. 6 Walter Little, Drumloch, Chapelton.
 H No. 9 William Paterson, Felton, Dolphinton.
 C No. 8 B. G. Murray, Spittal, Biggar.

CLASS 2. FRESH BUTTER, Three 1 lb. Rolls.—Premiums, £4, £2, and £1.

- 1st No. 22 Robert Gilmour, Stonebyres, Eaglesham.
 2nd No. 30 William Rennie, Parkhead, Slamannan.
 3rd No. 21 Andrew Fleming, Threepland, Eaglesham.
 V No. 28 R. G. Murray, Spittal, Biggar.
 H No. 24 Walter Little, Drumloch, Chapelton.
 C No. 25 James Mark, Hyndshaw Farm, Carluke.

CLASS 3. CHEDDAR CHEESE, 56 lb. and upwards.—Premiums, £6, £4, £2, and £1.

- 1st No. 42 William Hunter, Garthland Mains, Stranraer.
 2nd No. 36 Alexander Cross of Knockdon, Maybole.
 3rd No. 34 John H. Barrowman, Corrahill, Kirkcudbright.
 4th No. 40 Hugh Gilchrist, Torrs Dairy, Kirkcudbright.
 V No. 47 A. W. Saunders, Dromore Farm, Kirkcudbright.
 H No. 45 James Milroy, Galdenoch, Stoneykirk.
 C No. 37 J. C. Cuninghame, Home Farm, Dunragit.

CLASS 4. FLAT WHITE CHEESE, made according to any method, from a Dairy where all the Cheese are made flat, 40 lb. and upwards—Premiums, £4, £2, and £1.

- 1st No. 53 John Paterson, Torfoot, Strathaven.
 2nd No. 54 W. G. Plunkett, Craignell, Colmonell.
 3rd No. 56 David Walker, Balhamage, Barrhill, Ayrshire.
 V No. 55 David Purdie, Inglestonford, New Abbey, Dumfries.
 H No. 52 Robert Leiper, Yarbent, Strathaven.

CLASS 5. CHEESE, 14 lb. and under.—Premiums, £3, £2, and £1.

- 1st No. 64 Stephen Hunter, Whiteleys, Stranraer.
 2nd No. 61 J. C. Cunningham, Home Farm, Dunragit.
 3rd No. 66 James Milroy, Galdenoch, Stoneykirk.
 V No. 58 John H. Barrowman, Corrahill, Kirkcudbright.
 H No. 62 J. C. Cunningham, Boreland, Dunragit.
 C No. 59 Hugh W. B. Crawford of Chapmanton, Castle-Douglas (Stilton).
 C No. 69 A. W. Saunders, Dromore Farm, Kirkcudbright.

J U D G E S

Shorthorn.—John Handley, Green Head, Milnthorpe; Jas. M'William, Garbity, Orton Station.

Aberdeen-Angus.—Lewis Beaton, Home Farm, Cullen House, Cullen; George Hendry, County Buildings, Aberdeen.

Galloway.—Wm. A. M'Turk, Barlae, Dalry, Galloway.

Highland.—J. R. Campbell, Shinness, Lairg, Sutherland.

Ayrshire.—Thomas C. Lindsay, Aitkenbrae, Monkton; Matthew Hunter, Adamhill, Craigie, Kilmarnock.

Clydesdale Stallions, Entire Colts, and Geldings.—James Barrie, Home Farm, Balmedie, Aberdeen; William Kerr, Houdston, Girvan; John Cocker, Hill of Petty, Fyvie.

Clydesdale Mares and Fillies.—W. S. Park, Hatton, Bishopton; James Murdoch, Gartcraig, Shettleston; James Allison, Clifton Mains, Ratho.

Hunters.—Colonel John M'Kie, Ernespie, Castle-Douglas.

Hackneys, Ponies, and Harness Classes.—H. P. Webster, Stud Farm, Brompton, R.S.O., Yorks.

Polo and Riding Ponies.—Judge of Hunters.

Highland Ponies.—A. M'Gillivray, Banchor, Newtonmore.

Shetland Ponies.—Francis N. M. Gourlay, Broomfield, Moniaive.

Blackfaced.—Peter M'Intyre, Tighnabhair, Comrie; John Craig, Innergeldie, Comrie; James Greenshields, West Town, Lesmahagow.

Cheviot.—Charles Scott, Milsington, Hawick; Thos. O. Thornton, Hyndlee, Hawick.

Border Leicester.—James Jeffrey, Deuchrie, Prestonkirk; James Whyte, Hayston, Glamis.

Half-Bred and Fat Sheep.—James Bertram, Heughhead, Reston; William Davidson, Cornhill-on-Tweed.

Shropshire and Oxford Down.—Arthur S. Gibson, Estate Office, Rudington, Notts.

Suffolk.—C. T. A. Robertson, Little Horringer Hall, Bury St Edmunds.

Swine.—Colonel T. A. Walker-Jones, The Manor House, Burton, Westmoreland.

Poultry.—Alex. M. Prain, Rawes, Longforan (classes 25 to 54 inclusive and classes 75 to 88 inclusive); John Melkile, Mount Hamilton, Ayr (classes 1 to 24 inclusive and classes 55 to 74 inclusive).

Dairy Produce.—William M'Fadzean, Wedgewood, Charles St., Kilmarnock.

David Wilson, East Linton, for Machine for cleaning and sizing Potatoes—
Large Silver Medal.

II.—VETERINARY DEPARTMENT.

CLASS EXAMINATIONS—1906.

Silver Medals were awarded to the following :—

ROYAL (DICK) VETERINARY COLLEGE.

Junior Anatomy . . .	William Davies, Llandyssell, South Wales.
Senior Anatomy . . .	John Robson, Bellingham, Northumberland.
Chemistry . . .	B. A. Searby, Louth, Lincs.
Biology . . .	William Davies, Llandyssell, South Wales.
Physiology . . .	John Robson, Bellingham, Northumberland.
Stable Management . . .	John W. Morrow, Coleraine, Ireland.
Pathology . . .	W. King Clark, North Berwick.
Materia Medica . . .	Thomas Wilson, Nantwich, Cheshire.
Hygiene . . .	H. S. A. Dunn, Aberdeen.
Veterinary Medicine . . .	Hugh Andrew, Edinburgh.
Veterinary Surgery . . .	Hugh Andrew, Edinburgh.

GLASGOW VETERINARY COLLEGE.

Junior Anatomy . . .	Fred. W. Hart, Dromara, Co. Down.
Senior Anatomy . . .	William Kennedy, Arran.
Chemistry and Physics . . .	Fred. W. Hart, Dromara, Co. Down.
Zoology . . .	David Cooper, Bishopbriggs, Glasgow.
Physiology and Histology . . .	Charles Johnstone, Dumfries.
Stable Management . . .	William Kennedy, Arran.
Pathology and Bacteriology . . .	Evelyn Meikle, Sunderland.
Materia Medica . . .	Evelyn Meikle, Sunderland.
Veterinary Hygiene and Dietetics . . .	William Henderson, Shettleston, Glasgow.
Veterinary Medicine and Surgery (horse) . . .	
Veterinary Surgery . . .	
	Archibald M'Cunn, Wellbeck, Notts.

22 Large Silver Medals, £14, 0s. 6d.

III.—DISTRICT COMPETITIONS.

18 Districts—Grants of £12 each (Section I.), less £4 not awarded . . .	£212	0	0
16 " Grants of £15 each (Section II.) . . .	240	0	0
8 " Special Grants . . .	96	0	0
35 " Medals for Shows (91) (2 Medium) . . .	63	8	8
12 " Medals for Cottages and Gardens (20) . . .	4	16	8
219 " Medals for Ploughing, 1905-6 . . .	52	18	6
308	£669	3	5

ABSTRACT OF PREMIUMS.

Peebles Show . . .	£2608	10	0
District Competitions . . .	669	3	5
Veterinary Colleges . . .	14	0	6
	£3291	13	11

STATE OF THE FUNDS

OF

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

As at 30th NOVEMBER 1906.

I. CONSOLS—			
£4,000 2½ per cent Consols at 86½	.	.	£3,475 0 0
II. HERITABLE BONDS—			
£11,000 at 8½ per cent, £23,500 at 8½ per cent	.	.	34,500 0 0
III. DEBENTURE AND PREFERENCE STOCKS—			
£5,850 N.B. Railway Co. 3 per cent, at 89½	.	£5,221	2 6
£5,200 Gt. Central Railway Co. 4½ per cent, at 129	.	6,708	0 0
£3,336 Gt. N. Railway Co. 3 per cent, at 91	.	3,035	15 2
£3,336 N.E. Railway Co. 3 per cent, at 92	.	3,069	2 4
£3,200 Gt. E. Railway Co. 4 per cent, at 118	.	3,776	0 0
£2,727 Caled. Railway Co. 4 per cent, at 118½	.	3,231	9 10
£2,347 London and North-Western Railway Company 3 per cent, at 95	.	2,229	13 0
£1,600 Glasgow and South-Western Railway Co. 4 per cent, at 119	.	1,904	0 0
£1,212 Mid. Railway Co. 2½ per cent, at 77	.	933	4 9
£2,400 Do. do. Perpetual Preference Stock 2½ per cent, at 73	.	1,752	0 0
£200 Lanarkshire and Dumbartonshire Railway Company 4 per cent, at 115½	.	231	0 0
			32,091 7 7
IV. BANK STOCKS—			
£4,462 7 8 Royal Bank of Scotland, at 257	£11,468	6 6	
£2,218 16 5 Bank of England, at 280½	6,223	15 10	
£1,900 0 0 British Linen Co. Bank, at 501½	9,528	10 0	
£1,009 13 4 Bank of Scotland, at 382½	3,861	19 6	
			31,082 11 10
£9,590 17 5			
V. ON DEPOSIT RECEIPT with Edinburgh Corporation			
at ½ per cent above Deposit Receipt rates—			
Dated 11th January 1906	.	£1,000	0 0
Dated 19th April 1906	.	800	0 0
			1,800 0 0
TOTAL AMOUNT OF INVESTED FUNDS			£102,948 19 5
VI. ESTIMATED VALUE of Buildings, No. 3 George			
IV. Bridge	.	£3,100	0 0
VII. ESTIMATED VALUE of Furniture, Paintings, Books, &c.			
	.	1,000	0 0
			4,100 0 0
VIII. ARREARS OF SUBSCRIPTIONS considered recoverable			123 2 6
IX. BALANCE DUE BY ROYAL BANK OF SCOTLAND ON ACCOUNTS			
CURRENT at 30th November 1906	.		1,657 16 8
AMOUNT OF GENERAL FUNDS			£108,829 18 7

X. TWEEDDALE MEDAL FUND—

Heritable Bond, at 3½ per cent	£500 0 0
--	----------

XI. THE ROBERT MURDOCH PRIZE FUND—

Legacy by the late Miss Murdoch, Blantyre, to be applied in giving a prize of £10 a-year, while it lasts, to the Breeder of the best Clydesdale Brood Mare at the Annual Show of the Society, £100, less duty.

Amount per last account, including interest	£28 16 9
---	----------

Interest on Deposit Receipt, dated 2nd November 1905, and uplifted 24th October 1906	0 12 11
---	---------

	£29 9 8
--	---------

Transferred to Peebles Show Account	10 0 0
---	--------

On Deposit Receipt with Royal Bank, dated 24th October 1906	£19 9 8
---	---------

JAS. H. GIBSON-CRAIG, *Treasurer.*

ALEXR. M. GORDON, *Member of Finance Committee.*

WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 9th January 1907.

VIEW OF RECEIPTS AND PAYMENTS

For the Year 1905-1906.

RECEIPTS.

1. ANNUAL SUBSCRIPTIONS AND ARREARS received	£1,096	6	6
2. LIFE SUBSCRIPTIONS	950	8	0
	<hr/>		
	£2,046	14	6
3. INTERESTS AND DIVIDENDS—			
Interests	£2,051	5	2
Dividends	1,439	6	11
	<hr/>		
	3,490	12	1
4. TRANSACTIONS		52	12 7
5. RECEIPTS from Peebles Show		6,554	6 11
6. INVESTMENTS realised	£13,137	12	11
	<hr/>		
7. INCOME-TAX repaid for two years to 5th April 1906		350	18 10
	<hr/>		
SUM OF RECEIPTS	£12,495	4	11

PAYMENTS.

1. ESTABLISHMENT EXPENSES—			
Salaries and Wages	£1,472	0	0
Fen - duty, Taxes, Coal, Gas, Insurance, Repairs, and Furnishings	232	14	0
	<hr/>		
	£1,704	14	0
2. FEE TO AUDITOR of Accounts for year 1904-1905	75	0	0
3. EDUCATION	198	17	0
4. CHEMICAL DEPARTMENT	218	18	4
5. VETERINARY DEPARTMENT	14	0	6
6. BOTANICAL AND ENTOMOLOGICAL DEPARTMENT	47	19	0
7. DAIRY DEPARTMENT	404	14	4
8. SOCIETY'S TRANSACTIONS	776	17	1
9. ORDINARY Printing, Advertising, Stationery, Postages, and Bank Charges	252	12	11
10. SALARY and Expenses of Consulting Engineer	16	5	4
11. GRANTS to Public Societies	25	0	0
12. MISCELLANEOUS PAYMENTS	142	17	11
13. INVESTMENTS made	£15,008	12	9
	<hr/>		
14. PAYMENTS in connection with Glasgow Show	117	12	9
15. PAYMENTS in connection with Peebles Show—			
Premiums	£2,479	10	0
General Expenses	3,529	17	2
	<hr/>		
	6,009	7	2
16. PREMIUMS for Local Shows and District Competitions	690	2	2
	<hr/>		
SUM OF PAYMENTS	10,694	18	6
	<hr/>		
BALANCE OF RECEIPTS	£1,800	6	5

JAS. H. GIBSON-CRAIG, *Treasurer.*ALEXR. M. GORDON, *Member of Finance Committee.*WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 9th January 1907.

ABSTRACT of the ACCOUNTS of the HIGHLAND and CHARGE.

1. BALANCES due by Royal Bank of Scotland on Account Current at 30th November 1905	£1,728 10 1	
2. ARREARS of Subscriptions outstanding at 30th Nov. 1905	£117 6 6	
Whereof due by Members who have compounded for life, and whose arrears are thereby ex- tinguished	£6 7 0	
Sums ordered to be written off	47 2 0	
	<u>53 9 0</u>	63 17 6
3. INTERESTS AND DIVIDENDS—		
(1) Interests—		
On Heritable Bonds, less Income-tax	£1,091 6 8	
On Debenture and Preference Stocks, do.	923 11 9	
On Deposit Receipts with Edinburgh Cor- poration, less Income-tax	36 6 9	
	<u>£2,051 5 2</u>	
(2) Dividends—		
On Consols, less Income-tax	£95 0 0	
On Bank Stocks	1,344 6 11	
	<u>1,439 6 11</u>	3,490 12 1
4. SUBSCRIPTIONS—		
Annual Subscriptions	£1,213 14 0	
Life Subscriptions	950 8 0	
	<u>2,164 2 0</u>	
5. TRANSACTIONS—Sales and Advertisements	52 12 7	
6. RECEIPTS from Peebles Show	6,554 6 11	
7. INVESTMENTS REALISED	12,137 12 11	
8. INCOME-TAX repaid for two years to 5th April 1906	350 18 10	
<hr/>		
SUM OF CHARGE	£27,542 12 11	

AGRICULTURAL SOCIETY of SCOTLAND for the Year 1905-1906.

DISCHARGE.

1. ESTABLISHMENT EXPENSES—			
Salaries and Wages—Secretary, £900; Clerk, £300; Second Clerk, £200			
Messenger, £72			£1,472 0 0
Few-duty, £28; Taxes, £47, 6s. 7d.			73 6 7
Coals and Gas			28 0 0
Repairs and Furnishings—Special, £75, 17s. 5d.; Ordinary, £38, 10s			114 7 5
Insurances			17 0 0
			£1,704 14 0
2. FEE to Auditor of Accounts for 1904-1905			75 0 0
3. EDUCATION—			
(1) Forestry—			
Vote to Lecturer in Edinburgh University	£50 0 0		
Fees and Expenses of Examiners	23 11 0		
		£78 11 0	
(2) Agriculture—			
Expenses of National Diploma Examination at Leeds	125 6 0		
			198 17 0
4. CHEMICAL DEPARTMENT—			
(1) Salary to Chemist	£50 0 0		
(2) Chemist's Fees for Analyses to Members, and Expenses	95 13 3		
		£145 13 3	
(3) Expenses of Manuring and Sheep-Grazing Experiments, £148, 5s. 1d.—Less Grant from Board of Agriculture, £75	78 5 1		
			218 18 4
5. VETERINARY DEPARTMENT—Medals to Students			14 0 6
6. BOTANICAL DEPARTMENT—			
Fee to Botanist for year	£25 0 0		
Testing Samples of Seeds for Members	22 19 0		
			47 19 0
7. DAIRY DEPARTMENT—			
(1) Expenses of Examination at Kilmarnock, £76, 18s 9d., less Fees paid by unsuccessful Students, £7	£69 18 9		
(2) Special Grant—Vote to Dairy School at Kilmarnock	100 0 0		
(3) Milk Record Scheme—			
Experts and Outlays	£297 8 4		
Less Share received from Districts for 1905	62 12 9		
		£234 15 7	
			404 14 4
8. SOCIETY'S TRANSACTIONS			776 17 1
9. ORDINARY PRINTING , £94, 8s 7d.; Advertising, £16, 16s. 11d.; Stationery, Books, &c., £56, 10s. 7d.; Postages, &c., £75; Bank Charges, &c., £9, 16s. 10d.			252 12 11
10. CONSULTING ENGINEER			16 5 4
11. GRANTS to Public Societies— Scottish Meteorological Society, £20; Society for Prevention of Cruelty to Animals, £5			25 0 0
12. MISCELLANEOUS PAYMENTS			142 17 11
13. INVESTMENTS made			15,008 12 9
14. PAYMENTS in connection with Glasgow Show, 1905			117 12 9
15. PAYMENTS in connection with Peebles Show, 1906— Premiums, £3466, 18s. 10d.; Medals, £12, 11s 2d.; Expenses, as per page 379 of Show Account, £3529, 17s. 2d.			6,009 7 2
16. PREMIUMS for Local Shows and District Competitions			890 2 2
17. ARREARS struck off as irrecoverable			58 2 6
18. ARREARS outstanding at 30th November 1906			123 2 6
19. BALANCES due by Royal Bank of Scotland on Accounts Current at 30th November 1906—			
Edinburgh Account	£1,528 16 8		
London Account	129 0 0		
			1,657 16 8
SUM OF DISCHARGE			£27,542 12 11

JAS. H. GIBSON-CRAIG, *Treasurer.*

ALEXR. M. GORDON, *Member of Finance Committee.*

WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 9th January 1907.

ABSTRACT of the ACCOUNTS

CHARGE.

1. LOCAL SUBSCRIPTIONS—

Roxburghshire Voluntary Assessment	.	.	.	.	£320	7	11
Berwickshire	"	"	.	.	175	0	0
Peeblesshire	"	"	.	.	138	19	4
Selkirkshire	"	"	.	.	89	11	0
Royal Burgh of Peebles	.	.	.	.	105	0	0
Merchants of Peebles	.	.	.	.	105	0	0
West Linton Agricultural Society	.	.	.	.	105	0	0
Other Local Contributions	.	.	.	.	450	12	0

£1,489 10 3

2. AMOUNT COLLECTED DURING SHOW—

Drawn at Gates	.	.	.	.	£2,068	18	9
Drawn at Grand Stand	.	.	.	.	313	0	3
Catalogues and Awards sold	.	.	.	.	205	4	7
Cloak-Rooms, Lavatories, &c.	.	.	.	.	8	18	2

2,595 16 9

3. FORAGE SOLD	.	.	.	.	.	10	4	8
4. RENT OF STALLS	.	.	.	.	.	1,873	5	6
5. RENT OF REFRESHMENT BOOTHS	.	.	.	.	.	250	0	0
6. ADVERTISEMENTS IN CATALOGUE AND PREMIUM LIST	.	.	.	.	.	96	10	6
7. SUBSCRIPTIONS IN AID OF PREMIUMS	.	.	.	.	.	212	0	0
8. INCOME FROM TWEEDDALE MEDAL FUND	.	.	.	.	.	15	8	10
9. INTEREST FROM ROYAL BANK AND EDINBURGH CORPORATION	.	.	.	.	.	11	10	5

£6,554 6 11

Note.—From the above balance of, £544 19 9

There falls to be deducted—

 Premiums undrawn at 30th November 1906, amounting to 129 0 0

 Making a probable Surplus of £415 19 9

of the PEEBLES SHOW, 1906.

DISCHARGE.

1. SHOWYARD EXPENDITURE—

Fitting up Showyard	£1,990	7	0
Rosettes, £31, 10s. 2d.; Plans and Specifications, £6, 6s.	37	16	2
Miscellaneous	6	16	7
	£2,034	19	9
2. FORAGE	251	14	9
3. POLICE	34	0	0
4. TRAVELLING EXPENSES of Judges, Stewards, &c.	96	17	9
5. HOTEL AND LUNCHEONS—			
Hotel Bill for 32 Directors, 7 Stewards, 33 Judges	£224	8	7
Luncheons and Breakfasts in Showyard for Directors, Judges, and Committee	118	19	0
	343	7	7
6. MUSIC	90	0	0
7. PRINTING	225	13	11
8. ADVERTISING and Bill-posting	141	14	10
9. HIGHLAND INDUSTRIES	7	10	0
10. VETERINARY INSPECTION	10	10	0
11. CONCEBT for Attendants	3	3	0
12. TREASURER	25	0	0
13. ENGINEER	5	0	0
14. FORESTRY EXHIBITION (Prizes awarded)	18	0	0
15. ASSISTANTS and Attendants	179	13	4
16. POSTAGES	50	0	0
17. MISCELLANEOUS	12	12	3
	£3,529	17	2
18. PREMIUMS drawn at 30th November 1906	2,479	10	0
	£6,009	7	2
BALANCE OF RECEIPTS	544	19	9
	£6,554	6	11

JAS. H. GIBSON-CRAIG, *Treasurer.*ALEX. M. GORDON, *Member of Finance Committee.*WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 9th January 1907.

ABSTRACT of the ACCOUNTS of the

CHARGE.

I. FUNDS at 30th November 1905—

£3,193, 6s. 8d. 3 per cent Debenture Stock of the North British	
Railway Company, purchased at	£2,650 0 0
Amount on Heritable Bond, at $3\frac{1}{2}$ per cent	3,500 0 0
£550 Lancashire and Yorkshire Railway Company 3 per cent	
Debenture Stock, purchased at	611 10 6
£190 London and North-Western Railway Company 4 per cent	
Debenture Stock, purchased at	259 1 11
	<hr/>
	£7,020 12 5
BALANCE in Royal Bank on Account Current	316 6 10
	<hr/>
	£7,336 19 3

II. INTEREST—

On £3,193, 6s. 8d. North British Railway	
Company 3 per cent Debenture Stock,	
£95, 16s., less tax £4, 15s. 10d.	£91 0 2
On £3,500 on Heritable Bond at $3\frac{1}{2}$ per cent,	
£113, 15s., less tax £5, 13s. 8d.	108 1 4
On £550 Lancashire and Yorkshire Railway Com-	
pany 3 per cent Debenture Stock, £16, 10s.,	
less tax 16s. 6d.	15 13 6
On £190 London and North-Western Rail-	
way Company 4 per cent Guaranteed Stock,	
£7, 12s., less tax 7s. 8d.	7 4 4
	<hr/>
	221 19 4

III. MISCELLANEOUS RECEIPT—

Received repayment of Income-tax for three years to 5th April	
1906	35 3 5
	<hr/>
SUM OF CHARGE	£7,594 2 0
	<hr/>

ARGYLL NAVAL FUND for Year 1905-1906.

DISCHARGE.

I. ALLOWANCES to the five following Recipients—

Gordon Campbell (fourth year)	£40 0 0
Donald Patrick C. Campbell (third year)	40 0 0
John S. Binny Scott (third year)	40 0 0
John A. Dalrymple Campbell (second year)	40 0 0
Francis Grant Hunter (first year)	40 0 0
	<hr/>
	£200 0 0

II. PRINTING—

Wm. Blackwood & Sons	3 16 0
--------------------------------	--------

III. FUNDS at 30th November 1906—

£3,198, 6s. 8d. 3 per cent Debenture Stock of the North British Railway Company, pur- chased at	£2,650 0 0
Amount on Heritable Bond, at 3½ per cent	3,500 0 0
£550 Lancashire and Yorkshire Railway Com- pany 3 per cent Debenture Stock, purchased at	611 10 6
£190 London and North-Western Railway Com- pany 4 per cent Debenture Stock, purchased at	259 1 11
	<hr/>
	£7,020 12 5
Balance in Royal Bank on Account Current	369 13 7
	<hr/>
	7,390 6 0

SUM OF DISCHARGE . . . £7,594 2 0

JAS. H. GIBSON-CRAIG, *Treasurer.*

ALEXR. M. GORDON, *Member of Finance Committee.*

WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 9th January 1907.

PROCEEDINGS AT BOARD MEETINGS.

MEETING OF DIRECTORS, 7TH FEBRUARY 1906.

Present.—*Vice-President*—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr Alex. M. Gordon; Sir Robert D. Moncreiffe, Bart.; Sir Arch. Buchan Hepburn, Bart.; Mr C. H. Scott Plummer; Mr John M'Hutchen Dobbie; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Mr John Macpherson-Grant; Mr Alex. Cross; Mr A. H. Anderson. *Extraordinary Directors*—Colonel Charles Hope; Mr M. G. Thorburn; Mr Adam S. Logan; Mr George W. Constable; Mr And. T. Elliot; Mr John Ballingall; Mr F. W. Christie; Mr John Wilson; Mr John Cran. *Treasurer*—Sir James H. Gibson-Craig, Bart. *Chemist*—Mr James Hendrick, B.Sc. David Wilson in the chair.

Peebles Show, 1906.

Railway Arrangements.—The Secretary reported as to the arrangements being made by the Caledonian and North British Railway Companies for coping with the traffic in connection with the Peebles Show. He stated that the North British Railway Company still adhered to their resolution not to give reduced fares for visitors to the Show.

It was resolved that a Deputation wait upon the Directors of the North British Railway Company, with the view of inducing them to give reduced fares as for former Shows, the Deputation to consist of Colonel Hope, Mr Scott Plummer, Mr M. G. Thorburn, Mr Constable, Very Rev. Dr Gillespie, Mr M'Hutchen Dobbie, Mr W. Thorburn, and Bailie Dawling, Peebles, and other gentlemen representing the Peebles District, to be nominated by Mr M. G. Thorburn.

Refreshments for Standholders.—The Board approved of the introduction of regulations for the admission of refreshments for standholders during the Show.

Judges of Sheep.

A letter was read from the National Sheep-Breeders' Association urging that the Judges appointed for all the pure-bred classes of Sheep should be selected from gentlemen nominated by the respective Sheep Societies.

On the motion of Mr FERGUSON, seconded by Mr ELLIOT, it was resolved that the Directors adhere to the present practice of retaining in their own hands the sole power of electing the Judges for the Society's Show, but that as heretofore due consideration will be given to nominations received from Breed Societies and Exhibitors.

Royal Commission on Motor-Cars.

The SECRETARY intimated that the Royal Commission on Motor-Cars had resolved to give a hearing to the Society's witness in accordance with the request in the Resolution adopted at last Meeting of the Board.

Butter Manipulation.

On the recommendation of the Science Committee it was resolved that the attention of the Board of Agriculture be directed to the great injustice being done to consumers and producers of dairy produce in this country by the extensive manipulation and fraudulent sale of butter.

Poisonous Bean-Meal.

The Science Committee drew attention to reports regarding fatalities amongst dairy cows believed to be due to poisonous ingredients in bean-meal imported from foreign countries. Instructions were given to the Society's Chemist to investigate the matter and report to the Board.

Cheap Manures.

Mr SHIRRA GIBB called attention to efforts being made in different parts of Scotland this year to sell cheap and inferior manures. Several varieties of manures of this kind were being pressed on the public at a price of about £3, 10s. per ton. He believed, if analysed, these manures would not be worth more than 30s. per ton, and he thought it well that farmers should be warned to be cautious in the purchase of materials of this kind.

Mr Shirra Gibb was thanked for bringing the matter before the Board.

MEETING OF DIRECTORS, 7TH MARCH 1906.

Present.—*Vice-President*—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr William Clark; Mr Andrew Hutcheson; Mr E. D. Paton; Sir Arch. Buchan Hepburn, Bart.; Mr C. H. Scott Plummer; Mr John M'Hutchen Dobbie; Mr W. S. Ferguson; Mr Thomas Gordon Duff; Mr St Clair Cunningham; Mr Alex. Cross; Mr A. H. Anderson. *Extraordinary Directors*—Mr H. B. Marshall; Mr M. G. Thorburn; Mr George W. Constable; Mr John Oliver; Mr And. T. Elliot; Mr John Ballingall; Mr F. W. Christie; Mr James I. Davidson; Mr John Cran; Mr W. T. Malcolm. *Hon. Secretary*—Sir John Gilmour, Bart. *Chemist*—Mr James Hendrick, B.Sc. Mr Alex. Cross in the chair.

Peebles Show, 1906.

Veterinary Surgeon.—Mr J. C. Johnston, M.R.C.V.S., Peebles, was appointed Veterinary Surgeon for the Show, at the usual fee of ten guineas.

Railway Facilities.—The SECRETARY stated that the Directors of the North British Railway Company had agreed to receive this Society's Deputation on the following day, with regard to reduced fares for the Peebles Show.

A letter was read from the Caledonian Railway Company stating that that Company would issue the usual single fare return tickets during the week of the Show, valid for the return journey up to the following Monday; also that on the last two days of the Show one-day excursion tickets would be issued from the principal places on the Caledonian line in the direction of Peebles.

Sheep Judging.—The SECRETARY reported that there was considerable dissatisfaction expressed by exhibitors of sheep with the inconvenience they experienced at Glasgow of seeing the judging, owing to the limited judging space, and he had brought the matter before the Stewards. The Stewards could not recommend the institution of judging rings for sheep, in the view of the difficulty experienced in getting space for their shows, but they recommended that everything that was practicable should be done to meet the wishes of exhibitors of sheep by having the spaces between the sheds made as large as practicable.

After some discussion the recommendation of the Stewards was adopted.

Royal Scottish Arboricultural Society.

With regard to the recommendation of the Stewards that members of the Royal Scottish Arboricultural Society attending the Show in connection with the Exhibition of Forestry be granted season tickets at 5s. each, being half the usual price, the opinion was expressed by several members of the Board that the granting of reduced rates of admission to the Showyard would form a dangerous precedent.

Sir ARCHIBALD BUCHAN HEPBURN moved the approval of the recommendation of the Stewards. Mr GORDON DUFF seconded.

Sir JOHN GILMOUR moved as an amendment that the recommendation of the Stewards be not approved. Mr SCOTT PLUMMER seconded.

On a show of hands being taken, the amendment was carried by 11 to 6.

Life Subscriptions.

It was unanimously resolved that it be remitted to the Special Finance Committee to consider and report (1) as to increasing the amounts of the subscriptions for the Life Membership of the Society, so as to make up for the reduction in the rate of interest upon invested money, and (2) as to what changes, if any, should be introduced in the classification of members.

Consulting Engineer.

The Implement Trials Committee recommended that Professor Stanfield of the Heriot-Watt College, Edinburgh, be appointed Consulting Engineer, to the Society, upon conditions similar to those relating to the appointment of the Society's Chemist, the retaining fee to be £25 per annum, and the tenure of office to begin on the 1st of July next.

The recommendation was adopted.

Bute Agricultural Society.

The SECRETARY stated that he had just learned that the Bute Agricultural Society was to hold its Centenary Show in the month of May next, and that there was a great desire amongst the members of the Society to have a grant from the Highland and Agricultural Society in aid of the Premium List on that occasion.

It was unanimously resolved to give a grant of £10 in money and four silver medals, to be offered for pure-bred breeding animals in the classes for Cattle, Horses, and Sheep.

MEETING OF DIRECTORS, 4TH APRIL 1906.

Present.—*Vice-President*—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stanhouse; Mr E. D. Paton; Mr Charles Howatson; Mr John Murray; Sir Archd. Buchan Hepburn, Bart.; Very Rev. John Gillespie, LL.D.; Mr John M'Hutchen Dobbie; Mr William Taylor; Mr David Wilson, D.Sc.; Mr John Macpherson-Grant; Mr John M'Caig; Mr C. M. Cameron. *Extraordinary Directors*—Mr H. B. Marshall; Mr James A. W. Mein; Mr Athole S. Hay; Mr M. G. Thorburn; Mr A. S. Logan; Mr George W. Constable; Mr John Oliver; Mr And. T. Elliot; Mr Robert Paterson; Mr John Ballingall; Mr Andrew Ralston; Mr John Cran. *Hon. Secretary*—Sir John Gilmour, Bart. *Chemist*—Mr James Hendrick, B.Sc. Mr David Wilson in the chair.

Peebles Show, 1906.

Railway Arrangements.—A letter was submitted from the General Manager of the North British Railway stating that the Directors of that Company had agreed to issue the usual single fare return tickets during the whole week of the Show, and in addition to give cheap day excursion fares on the last two days of the Show.

Early Closing on Last Day.—With the object of facilitating railway arrangements, it was agreed that the Show be closed to the public on the last day at 4 P.M. instead of 5 P.M.

Sleeping Tents in Showyard.—It was resolved that the Secretary be empowered to give permission to Exhibitors to erect small sleeping tents in the Showyard for themselves and their attendants, but that no sleeping tents be erected for visitors.

Trade in Butter Substitutes.

A letter was read from the Board of Agriculture inquiring whether the Society desired to nominate witnesses to give evidence before the Select Committee of the House of Commons appointed to inquire into the trade in Butter substitutes.

It was unanimously resolved to nominate Mr John Speir, Newton Farm, to give evidence before the Committee.

Fertilisers and Feeding Stuffs Amendment Bill.

The Science Committee reported generally in favour of this Bill, but recommended certain alterations, notably the introduction of a clause bringing ground lime within the scope of the Act.

Approved.

Office of Consulting Engineer.

A letter was read from Professor Stanfield intimating his acceptance of the office of Consulting Engineer to the Society.

Royal Commission on Canals.

The Secretary submitted a letter from the President of the Board of Agriculture inviting the Society to nominate one or two witnesses to give evidence from the Agricultural point of view before the Royal Commission on Canals and Inland Navigation.

Mr James I. Davidson, Saughton Mains, was unanimously appointed to give this evidence, and it was remitted to the Chairman and the Secretary to endeavour to obtain a witness to give evidence in regard to the Canals in the West of Scotland.

MEETING OF DIRECTORS, 2ND MAY 1906.

Present.—*Vice-President*—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr William Clark; Mr J. Douglas Fletcher; Sir Robert D. Moncreiffe, Bart.; Mr John Murray; Sir Arch. Buchan Hepburn, Bart.; Very Rev. John Gillespie, LL.D.; Mr John M'Hutchon Dobbie; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Mr John Macpherson-Grant; Mr H. M. Leadbetter; Mr Alex. Cross; Mr A. H. Anderson. *Extraordinary Directors*—Mr George W. Constable; Mr And. T. Elliot; Mr John Ballingall; Mr F. W. Christie; Mr James I. Davidson; Mr John Cran; Mr William T. Malcolm. *Auditor*—Wm. Home Cook, C.A. Mr David Wilson in the chair.

Deceased Members.

The Directors resolved to record in their Minutes expressions of the deep regret with which they learned of the deaths of the Earl of Mansfield and of Mr St Clair Cunningham, and of their sense of the valuable services rendered by them to the Society.

Peebles Show, 1906.

Attending Members.—The following Directors were appointed as Attending Members: *Shorthorn*—A. H. Anderson and Robert Paterson; *Aberdeen Angus*—A. M. Gordon and James Stenhouse; *Galloway*—William Duthie and C. M. Cameron; *Highland*—Sir A. Buchan Hepburn, Sir Robert Moncreiffe, and M. G. Thorburn; *Ayrshire*—J. Ernest Kerr and Colonel Hope; *Stallions, Entire Colts, and Geldings*—John Murray and John M'Caig; *Draught Mares and Fillies*—Captain Clayhills Henderson, William Clark, and George W. Constable; *Hunters, Polo and Riding Ponies*—Alexander Cross and H. M. Leadbetter; *Hackneys, Ponies, and Harness Horses*—T. Gordon Duff and William Taylor; *Highland Ponies*—H. B. Marshall and A. T. Elliot; *Shetland Ponies*—F. W. Christie and Athole S. Hay; *Blackface Sheep*—John Ballingall, John Oliver, and James A. W. Main; *Cheviot*—R. Shirra Gibb and Jas. I. Davidson; *Border Leicester*—John Marr; *Half-Bred and Fat Sheep*—Adam S. Logan; *Shropshire and Oxford Down*—John Cran; *Poultry*—John Macpherson-Grant.

It was remitted with powers to the Chairman and the Secretary to appoint any additional Attending Members that may be required.

Local Fund.—A letter was submitted from the County Clerk of Berwick remitting Voluntary Assessment of £150.

The Secretary was instructed to convey the thanks of the Board to the County Council.

Adulteration of Seeds.

In accordance with notice given, Mr J. DOUGLAS FLETCHER moved: "That in future the Society publish full particulars of all cases of adulteration of seeds, manures, and feeding-stuffs reported on by the Society's Chemist." Mr MACPHERSON-GRANT seconded.

Dr GILLESPIE moved that the matter be remitted to the Science Committee for consideration and report. Mr A. H. ANDERSON seconded.

On a show of hands being taken, Dr Gillespie's amendment was carried by 19 to 2.

Mr J. Douglas Fletcher was added to the Science Committee for the consideration of this matter.

Lower Life Subscription.

The Board having adopted the recommendations of the Special Finance Committee as to the alteration of the Lower Life Subscription, it was unanimously resolved as follows: "That Bye-law No. 2 be altered so as to provide that the payment for the purchase of a Life Subscription be Seven Guineas instead of Five Guineas, and that after eight annual payments of 10s. have been made a Life Subscription may be purchased for Five Guineas, and after twelve such payments for Three Guineas."

Braxy in Sheep.

A letter was submitted from Mr Malloch, M.R.C.V.S., Kirkby Stephen, inquiring whether the Society would be willing to give him facilities for conducting experiments on Braxy in sheep with the view of testing a specific of his own in the prevention of that disease.

It was resolved that no action be taken in view of the expected early publication of the Report on the researches lately conducted for the Board of Agriculture by Professor Hamilton of Aberdeen.

International Institute of Agriculture.

The Secretary submitted a circular letter from the Marquis R. Cappelli with regard to a proposal to establish in Rome a Federation of Agricultural Societies and Co-operative Organisations with the object of co-operating in the work of the International Agricultural Institute about to be founded there. It was resolved that no action be taken in the matter.

MEETING OF DIRECTORS, 6TH JUNE 1906.

Present.—Vice-President—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr Wm. Clark; Mr E. Douglas Paton; Mr Alex. M. Gordon; Mr J. Douglas Fletcher; Mr Charles Howatson; Sir Arch. Buchan Hepburn, Bart.; Very Rev. John Gillespie, LL.D.; Mr John M'Hutchen Dobbie; Mr William Taylor; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Mr H. M. Leadbetter; Mr Alex. Cross; Mr A. H. Anderson; Mr John M'Carg; Mr William Duthie. *Extraordinary Directors*—Mr H. B. Marshall; Mr M. G. Thorburn; Mr Adam S. Logan; Mr George W. Constable; Mr Robert Paterson; Mr John Ballingall; Mr Andrew Ralston; Mr John M. Aitken; Mr James I. Davidson; Mr John Cran; Captain Clayhills Henderson, R.N. *Chemist*—Mr James Kendrick, B.Sc. David Wilson in the chair.

Professor Wallace's Letters.

The CHAIRMAN said the Secretary had handed to him a question in writing, which he had asked him to answer. He wished to know whether it was the wish of the Board that he should answer it as their Chairman. The question was:—

"I beg to ask the Chairman a question, of which I have given him private notice. In letters which appeared lately in the Dumfries papers, Professor Wallace of Edinburgh University makes the following statements regarding the Secretary of this Society: (1) That he organised misrepresentations which misled the Privy Council into giving the Highland Society its last Charter on Education; and (2) That he had been guilty of secretarial shortcomings which were only saved from the public exposure, which they justly deserved, by sheltering behind a number of noblemen and gentlemen not personally implicated, but whose names would have been disagreeably mixed up in it.

"I ask the Chairman of the Board of Directors to state here publicly, for the information of the members of the Society, whether there is any foundation for these statements by Professor Wallace."

It was unanimously agreed that the question be answered.

The CHAIRMAN: My answer is that there is no foundation whatever for these statements.

Peebles Show, 1906.

Local Fund.—Letters were submitted from the County Clerks of Roxburgh, Selkirk, and Peebles remitting Voluntary Assessments respectively of £320, 7s. 11d., £29, 11s., and £138, 19s. 4d., and from the County Clerk of Berwick sending an additional £25.

The Secretary was instructed to convey the thanks of the Board to the County Councils.

Special Train from Berwick.—The Secretary submitted a letter from the North British Railway Co. intimating the running of a special train from Berwick to Peebles on the opening day of the Show, leaving Berwick at 6.50 A.M. and arriving at Peebles at 9.22 A.M.

Satisfaction was expressed that this special train had been arranged.

Lower Life Subscription.

On the motion of Dr GILLESPIE, seconded by Mr Cross, it was unanimously resolved to adopt the following Resolution which was approved at last Meeting of the Board of Directors: "That Bye-law No. 2 be altered so as to provide that the payment for the purchase of a Life Subscription be Seven Guineas instead of Five Guineas, and that after eight annual payments of 10s. have been made a Life Subscription may be purchased for Five Guineas, and after twelve such payments for Three Guineas."

Sale of Intoxicating Liquors in the Showyard.

A letter was read from the Scottish Temperance and Social Reform Association expressing the hope that the Directors will give serious consideration to the following Resolution adopted at a Meeting of the Executive of that Association on the 11th of May: "That with a view to increasing the moral influence of agricultural exhibitions, and at the same time ensuring the safety and comfort of the public, we respectfully urge the importance of Societies and Corporations concerned using their powers to prohibit gambling and the sale of intoxicating liquors within the limits of the

The letter and Resolution were remitted to the Shows Committee for consideration when dealing with the arrangements for the Show of 1907.

Vacancies in the Board of Directors.

Letters were submitted from the Marquis of Tullibardine and Captain Hope of Bridge Castle agreeing to nomination for election as Ordinary Directors in room of the late Earl of Mansfield and the late Mr St Clair Cunningham respectively.

A letter was also read from Mr A. M. Gordon of Newton agreeing to his nomination as Honorary Secretary of the Society in room of Sir John Gilmour.

Adulteration of Seeds, Manures, &c.

On the recommendation of the Science Committee it was resolved that steps be taken with a view to the publication of cases of the sale of inferior or adulterated Manures or Feeding-stuffs.

It was also agreed that experiments be made with the view of throwing light on the composition and feeding value of different varieties of turnips.

Judging Ayrshire Cattle.

The SECRETARY submitted the following Memorial from Breeders and others interested in Ayrshire Cattle:—

MEMORIAL TO THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND *RE* JUDGING OF AYRSHIRE CATTLE.

"To the Highland and Agricultural Society of Scotland.

"Gentlemen,—We, the undersigned, are interested in the Ayrshire Breed of Cattle, and view with apprehension the basis upon which the Awards to that Class of Stock have been given for several years. In our opinion the bulk of Showyard Judges do not select as Prize Winners such specimens of the breed as the average farmer considers profitable Cattle for the production of either Milk, Butter, or Cheese. Farmers in the South-West of Scotland make their living principally from Dairying, and any departure from the type of Cow which has been proved to be the most profitable Dairy animal is, sooner or later, certain to have a very detrimental effect on farming.

"Showyard ideals, be they good or bad, must always have a considerable influence on the Stock in the country in the one direction or the other, and, in the opinion of your Memorialists, Ayrshire Cattle are in danger of losing the high position for usefulness hitherto associated with their name.

"We therefore humbly suggest that the Highland and Agricultural Society, as the National Agricultural Society of Scotland, should take this matter into their most serious consideration, and suggest such measures as will make it reasonably certain that Ayrshire Cattle, to which Awards are given, will—

"First—Be of a type eminently suited for Dairy purposes.

"Second—Be of thoroughly healthy constitution.

"Third—Be of mild and quiet disposition.

"Fourth—Be of such a form as will be pleasing to the eye, and likely to make a fair carcase when no longer useful for Dairy purposes.

"—We remain, Gentlemen, your most obedient Servants,

"(Signed)

Sir MARK J. M.T. STEWART, Bart., of Southwick.

Sir HUGH SHAW STEWART, Bart., of Ardgowan.

A. Y. ALLAN, Aitkenbar, Dumbarton.

D. A. CLEMENT, Greenland, Bowling.

HUGH M. B. CRAWFORD, Chapmanton, Castle Douglas.

JOHN DRYSDALE, Arngibbon, Port of Menteith.

JAMES DUNLOP, Midland, Fenwick.

G. J. FERGUSON-BUCHANAN, of Auchentorlie, Bowling.

HUGH FERRIER, M.B.C.V.S., Alexandria.

JOHN FINNIE, South Camphill, Dairy.

ALLAN BARNES GRAHAM, jun., Craigallian, Milngavie.

JAMES HAMILTON, Aldersyde, Uddingston.

JAMES HOUSTON, Dumbarton.

JAMES HOWIE, Hillhouse, Kilmarnock.

ROBERT HOWIE, Netherauldhouse, Pollokshaws.

THOMAS HOWIE, Fairfield Mains, Monkton.

JAMES JOHNSTONE, Alloway Cottage, Ayr.

DUNCAN M'LEAN, Dairyman, Dalnair.

ADAM W. MONTGOMERIE, Lessnessock, Ochiltree.

J. CAMPBELL MURRAY, Haggs Castle, Pollokshaws.

JOHN PATERSON, Torfoot, Strathaven.

JOHN POLLOCK, jun., Springside, Howwood.

WILLIAM H. RALSTON, Dunragit Estate Office, Dunragit.

WILLIAM SLOAN, Shawsmuir, Closeburn.

ROBERT SMITH, Middleton, Bowling.

THOMAS SMITH, The Castle, Maybole.

JOHN SPIER, Newton Farm, Newton.

ALEX. M. STEVENSON, Janesfield, Symington.

J. HARLING TURNER, Portland Estate Office, Kilmarnock.

ROBERT WALLACE, Auchenbrain, Mauchline.

"4th June 1906."

On the motion of Mr CROSS, seconded by Dr GILLESPIE, it was resolved (1) that the Memorial be remitted to a Committee of the Board of Directors, (2) that that Committee be authorised to invite the Ayrshire Herd Book Society, the Ayrshire Agricultural Association, the Memorialists, and other bodies interested, to appoint representatives to confer with the Committee of Directors, and (3) that the Committee of Directors have power to add to this joint-Committee, and to report to the Board of Directors as to what steps, if any, should be taken with the view of giving effect to the desire of the Memorialists. The Committee of Directors was appointed as follows—viz.: Rev. Dr Gillespie, Convener, Mr Howatson, Mr Alex. Cross, Mr Taylor, Mr M'Caig, and Mr Paton. Mr John Spier was afterwards added to the Committee.

MEETING OF DIRECTORS, 7TH NOVEMBER 1906.

Present.—*Vice-President*—Mr John Wilson. *Ordinary Directors*—Mr Charles Howatson; Mr John Murray; Mr John Marr; Mr Jonathan Middleton; Mr C. H. Scott Plummer; Mr John M'Hutchen Dobbie; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Colonel R. F. Dudgeon; Mr H. M. Leadbetter; Captain Thos. Hope; Mr Alex. Cross; Mr John M'Caig; Mr James Stenhouse; Mr W. S. Park; Major F. J. Carruthers; Mr David Ferrie; Mr E. Douglas Paton. *Extraordinary Directors*—Colonel Robt. Dundas; Mr H. T. N. Hamilton Ogilvy; Mr Alex. Guild, W.S.; Mr A. Agnew Ralston; Mr George Pendreigh; Mr Harry Hope; Mr James S. Dickson; Mr E. Hedley Smith, B.L.; Mr F. W. Christie; Mr Andrew Ralston; Mr

James I. Davidson ; Mr John Cran ; Mr Wm. T. Malcolm ; Captain Clayhills Henderson, R.N. ; Mr R. Shirra Gibb ; Mr Andrew Hutcheson ; Mr John Speir. *Hon. Secretary*—Mr Alex. M. Gordon. *Chemist*—Mr James Hendrick, B.Sc. *Engineer*—Professor Stanfield. Alex. M. Gordon, and afterwards David Wilson, in the chair.

Deceased Members.

The Directors resolved to record in the Minutes expressions of the deep regret with which they received the intimations of the death of Sir Allan R. Mackenzie of Glenmuick, Bart., of Mr Charles J. Cunningham of Muirhouselaw, and of Mr James Biggar of Chapelton, and of their sense of the value of the services rendered to the Society by these gentlemen.

On the motion of Mr GORDON, seconded by Mr HUTCHESON, Mr David Wilson of Carbeth was unanimously re-elected Chairman of the Board for the ensuing year.

Mr WILSON thanked the Board for the honour conferred on him.

The Standing Committees for the ensuing year were appointed, the names to be printed as usual in the Premium Book.

Representatives on other Bodies.

The following were appointed representatives of the Society on the Boards of Management of the undernoted institutions for the ensuing year—viz. : *West of Scotland Agricultural College*—Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O. ; John M. Martin, Murieston House, Mid-Calder. *Edinburgh and East of Scotland College of Agriculture*—R. Shirra Gibb, Boon, Lauder ; James Macdonald, Secretary. *Aberdeen and North of Scotland College of Agriculture*—T. Gordon Duff of Drummuir, Keith ; William Duthie, Tarves. *Royal (Dick) Veterinary College*—John M. Martin, Mid-Calder.

Dipping of Sheep.

Mr HUTCHESON moved that the Standing Orders be suspended, so that he might submit a Resolution in connection with the Sheep-Dipping Order. The motion was seconded, and unanimously adopted. Mr HUTCHESON then moved : "That in view of the fact that in consequence of excessively wet weather many sheep-farmers had found it impossible to carry through the autumn dipping of their sheep, the Directors petition the Board of Agriculture to extend to the end of this month the prescribed dipping period, which expires on the 12th inst."

The motion was seconded by Mr M'CAIG, and unanimously adopted.

Peebles Show, 1906.

Accounts.—An Abstract of the Accounts of the Peebles Show was submitted, showing a probable surplus of about £415.

Edinburgh Show, 1907.

Date of Show.—The Secretary read a letter from Sir James Gibson-Craig stating that his Grace the Duke of Buccleuch had authorised him to state that their Royal Highnesses the Prince and Princess of Wales will go to Dalketh Palace, and attend the Edinburgh Highland Show of next year if it is held in the second week of July.

The intimation of the Royal visit was received with hearty gratification, and it was resolved that the dates of the Show be the 9th, 10th, 11th, and 12th July.

It was resolved that the cordial thanks of the Board be conveyed to his Grace the Duke of Buccleuch, and that the Secretary write to Sir James Gibson-Craig thanking him for his letter, and expressing the regret of the Directors that he was unable through illness to be present at the Meeting, and hoping that he might be able to be with them soon again.

Forage.—The Secretary was instructed to advertise for tenders for the supply of forage. The following Committee was appointed to consider the tenders and report to the Board—viz., Mr Malcolm (Convener), Mr M'Hutchen Dobbie, Mr Christie, Mr Ferguson, Mr Shirra Gibb, Mr John Wilson, Mr Stenhouse, Mr Pendreigh, and Mr Ferrie.

Prize List.—The Secretary stated that the Shows Committee had met on 6th November, and had revised the Premium List. It was proposed that as usual their Report be printed and issued for consideration in detail at next Meeting of the Board, only certain urgent matters to be dealt with at this Meeting.

The Board approved of this course.

Special Prizes.—The following Special Prizes were accepted, and votes of thanks accorded to the donors :—

1. Shorthorn Society—Two Champion Prizes of £25 each for the best male and the best female Shorthorn, open to all, entered or eligible for entry in Coates' Herd-Book.

2. Polled Cattle Society—Champion Gold Medal for the best breeding Animal of the Aberdeen-Angus breed.

3. The Clydesdale Horse Society—The Cawdor Challenge Cup for best Clydesdale Mare or Filly, as at Peebles.

4. Sir John Gilmour of Montrave, Bart.—£25 in prizes for Yearlings by Thoroughbred Stallions, as at Peebles.

5. Captain Clayhills Henderson of Invergowie, R.N.—£27 in prizes for Hunter Brood Mares with Foal at foot, as at Peebles.

6. Hunter Improvement Society—Gold Medal for best Hunter Filly not exceeding three years old, as at Peebles.

7. The Imperial Hunter Stud Book Co.—A Gold Medal, Silver Cup, or £10 in cash for the best Hunter Mare or Filly by a Thoroughbred or Hunter Sire registered in Vol. V. of 'The Imperial Hunter Stud-Book,' Boscombe, Hampshire; no Mare to take more than one of these special prizes each year, and the winner to pass sound and free from hereditary disease on the show-ground.

8. Society of Border-Leicester Sheep-Breeders—£10 for best Pen of Border-Leicester Sheep, as at Peebles.

9. The Cheviot Sheep Society—Perpetual Challenge Cup, gifted by Mr John Borthwick, value £25, for best Sheep in the Cheviot classes.

Derby Classes for Clydesdale Colts and Fillies—The Secretary read a letter from the Secretary of the Edinburgh Agricultural Association asking permission to have that Association's "Derby" Sweepstakes for Clydesdale Yearling Colts and Fillies carried out in the Highland Show at Edinburgh in 1907, on the same conditions as in 1899, it being understood that all Colts and Fillies coming forward to compete for the "Stakes" shall be likewise entered in the ordinary classes of the Highland and Agricultural Society.

The permission was granted.

Owners Leading their own Stock.—The following Resolution, adopted at the General Meeting of Members in the Showyard at Peebles on 18th July, was submitted: "That the Directors be asked to reconsider the Regulation adopted for this year's Show prohibiting exhibitors from leading their own stock in the judging ring in certain classes."

Mr MARR moved that the Board adhere to the Regulation in force at the Peebles Show. The motion was not seconded.

Captain CLAYHILLS HENDERSON moved that the Regulation be rescinded.

This motion was seconded by Mr HUTCHESON, and adopted.

Aberdeen Show, 1908.

Sir and Local Fund.—(1) A letter was read from the Town Clerk of Aberdeen intimating that the Town Council have resolved to give a donation of £100 towards the Local Fund for the Show, to grant the use of the Links for the Showyard upon certain conditions, and to give a supply of water free of charge. (2) Letters were read from the County Clerks of Aberdeenshire and Banffshire intimating that their County Councils had resolved to raise sums of about £500 and £150 respectively in aid of the Show by means of a voluntary assessment on owners of lands and heritages.

The Secretary was instructed to convey the thanks of the Board to the Town Council of Aberdeen and to the County Councils of Aberdeenshire and Banff.

Vacancy on Board of Directors.

On the motion of Mr GORDON, seconded by Mr GORDON DUFF, it was unanimously resolved that Mr Chas. E. N. Leith Hay of Leith Hall be nominated for election as a Director in room of Mr Gordon, appointed Hon. Secretary. The nomination of Mr Leith Hay will be submitted to the General Meeting of Members in January next.

Milk Record Scheme.

On the recommendation of the Milk Records Committee it was resolved (1) "that the Milk Record Scheme be continued for 1907 on the former lines, on the understanding that herds which have already been tested under the scheme will not be again tested under it next year; (2) that the Committee be authorised to draft and submit a scheme or schemes whereby financial and other encouragement might be given by the Highland and Agricultural Society to induce dairy farmers to organise means for the systematic testing of the milk produce of their cows.

International Dairy Congress.

The Secretary read a circular letter inviting the Society to co-operate in the conducting of the International Dairy Conference to be held at The Hague in 1907.

It was resolved that Mr John Speir, Newton Farm, be appointed as a representative of this Society on the British Committee in connection with the Conference, and that he be made a member of the organising body.

Agricultural Research.

The Secretary read a letter from the Board of Agriculture regarding the foundation and constitution of a proposed National Council for conducting Agricultural Research.

The letter was remitted to the Educational Committee for consideration and report.

Grouse Disease Inquiry.

The Secretary read an application for a grant to the funds for meeting the expenses incurred by the Departmental Committee appointed by the Board of Agriculture to inquire into the question of Grouse Disease.

The Board did not see its way to take any action in the matter.

MEETING OF DIRECTORS, 5TH DECEMBER 1906.

Present.—Ordinary Directors—Mr Charles Howatson; Sir Robt. D. Moncreiffe, Bart.; Mr John Murray; Sir Archibald Buchan Hepburn, Bart.; Mr John Marr; Very Rev. John Gillespie, LL.D.; Mr Jonathan Middleton; Mr C. H. Scott Plummer; Mr William Taylor; Mr W. S. Ferguson; Mr Thomas Gordon Duff; Colonel R. F. Ludgeon; Captain Thomas Hope; Mr Alexander Cross; Mr A. H. Anderson; Mr John M'Caig; Mr William Duthie; Mr C. M. Cameron; Mr James Stenhouse; Mr W. S. Park; Mr David Ferrie; Mr E. Douglas Paton; Mr J. Douglas Fletcher.
Extraordinary Directors—Mr Alex. Guild, W.S.; Mr George Pendreigh; Mr Harry Hope; Mr James S. Dickson; Mr E. Hedley Smith, B.L.; Mr Andrew Ralston; Mr James I. Davidson; Mr John Cran; Mr Wm. T. Malcolm; Captain Clayhills Henderson, R.N.; Mr R. Shirra Gibb; Mr John Speir. *Hon. Secretary*—Mr Alex. M. Gordon. *Chemist*—Mr James Hendrick, B.Sc. *Auditor*—Mr Wm. Home Cook, C.A. Mr Alex. M. Gordon in the Chair.

Edinburgh Show, 1907.

Site.—It was reported that arrangements had been completed for holding the Show at Prestonfield, on the ground on which the Society's Show of 1899 was held.

Prize List.—The Reports of the Shows Committee of 7th November and 5th December 1906 were submitted and adopted, except as stated below.

Calving Conditions for Ayrshire Cows.—The Standing Orders having been suspended, Mr CROSS moved that the Calving Regulations be altered so that Ayrshire Cows exhibited in calf will be qualified if they have produced a calf at any time within fifteen months prior to the first day of the Show.

Mr SPEIR seconded, and the motion was unanimously adopted.

Swine.—It was resolved to delay the introduction of the proposed changes in the Regulations and Classes for Swine till the Show of 1908.

Shorthorn Heifers with Calf at Foot.—A letter was submitted from Mr C. M. Cameron recommending that a class be introduced for Three-year-old Shorthorn Heifers with Calf at foot.

Dr GILLESPIE moved that prizes be offered in a separate class for Three-year-old Heifers with Calf at foot, of all the breeds, with the exception of Highland Cattle. Mr M'CAIG seconded.

Mr FERGUSON moved the previous question. Mr DUTHIE seconded.

On a show of hands being taken, the previous question was carried by 21 votes to 10.

Special Prizes.—The following Special Prizes were accepted, and votes of thanks accorded to the donors:—

1. Ayrshire Cattle Herd-Book Society—A Special Prize of £10 for the best Animal of the Ayrshire breed, entered with a number in that Society's Herd-Book.

2. Hackney Horse Society—A Special Prize of £10, or Gold Medal, for the best Mare or Filly exhibited in the Hackney or Pony classes, on the same conditions as at Peebles.

3. Polo and Riding Pony Society—A sum of £15 towards the prizes for Highland Ponies, on the same conditions as at Peebles.

4. Mr W. Mungall, Transy, Dunfermline—(1) Piece of Silver, value £10 to £12, for best group of Shetland Ponies, to consist of one male and two females drawn from the ordinary classes; and (2) Silver-mounted Hoof of the celebrated Shetland Pony "Odin" (32), for the best Shetland Pony Foal, foaled after 31st March 1907, and exhibited with its dam in the ordinary class for Shetland Pony Mare with Foal at foot, or as Extra Stock; (3) Silver Medal for best Shetland Pony.

Forestry Exhibition.—It was resolved to give free space in the Showyard to the Royal Scottish Arboricultural Society for the usual Forestry Exhibition, and also to give a grant of £20 for prizes for timber grown in the United Kingdom, the conditions to be the same as heretofore.

Potato Dressing Machine.

On the recommendation of the Implement Committee, the Society's large Silver Medal was awarded to Mr David Wilson, East Linton, for his Machine for sorting and dressing Potatoes, which was exhibited at the Peebles Show.

Implement Department of the Highland Show.

The Implement Committee recommended that, in deference to representations from Implement Exhibitors, no further action be taken with regard to the proposed changes in the Regulations and Entry Fees for the Implement Department of the Society's Show.

Judging Ayrshire Cattle.

The SECRETARY submitted the Minutes of Special Committee of 5th December, and of Conference held at Glasgow on 23rd November.

On the motion of Dr GILLESPIE, seconded by Mr ANDERSON, the recommendations of the Special Committee were adopted.

The Minutes showed that the Special Committee recommended approval of a qualifying Milking test for Ayrshire Cows exhibited in milk at the Highland Show, but that it be remitted to a Committee to arrange to have this test carried out before the opening of the Show.

Work of the Board of Agriculture in Scotland.

In the absence of Mr Andrew Hutcheson, Dr GILLESPIE moved: "That the Directors of the Highland and Agricultural Society of Scotland, having observed that in the Small Landholders (Scotland) Bill there is a proposal which would have the effect of transferring part of the work of the Board of Agriculture to the Department of the Secretary of State for Scotland, desire to record their opinion that this step would be detrimental to the interests of Scottish agriculture, and that it is important that all the branches of the work of the Board of Agriculture should remain under the special care of the Minister of Agriculture for Great Britain."

Mr MARE seconded, and the motion was unanimously adopted.

Vacancies in the Board of Directors.

A letter was read from Mr C. E. N. Leith-Hay agreeing to nomination for election as an Ordinary Director in room of Mr Gordon of Newton.

On the motion of Mr SCOTT PLUMMER, seconded by Mr PATON, it was resolved to nominate Mr Athole S. Hay of Marfield as an Ordinary Director in room of the late Mr Chas. J. Cunningham of Muirhouselaw.

Conference of Show Officials.

A letter was read from the President of the Royal Agricultural Society of England inviting the Society to nominate representatives to attend a Conference to be held in London next spring of Secretaries and other Representatives of leading Agricultural Societies.

It was unanimously resolved to appoint the Chairman of the Board and the Secretary.

MEETING OF DIRECTORS, 9TH JANUARY 1907.

Present.—*Vice-President*—Mr John Wilson. *Ordinary Directors*—Mr Charles Howatson; Sir Robt. D. Moncreiffe, Bart.; Mr John Murray; Sir Arch. Buchan Hepburn, Bart.; Mr John Marr; Very Rev. John Gillespie, LL.D.; Mr Jonathan Middleton; Mr C. H. Scott Plummer; Mr William Taylor; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr John Macpherson-Grant; Mr H. M. Leadbetter; Captain Thos. Hope; Mr Alex. Cross; Mr A. H. Anderson; Marquis of Tullibardine, D.S.O., M.V.O.; Mr John M'Craig; Mr Wm. Duthie; Mr W. S. Park; Mr J. Ernest Kerr; Major F. J. Carruthers; Mr David Ferrie; Mr E. Douglas Paton. *Extraordinary Directors*—Col. Robert Dundas; Mr Alex. Guild, W.S.; Mr A. Agnew Ralston; Mr George Pendreigh; Mr Harry Hope; Mr James S. Dickson; Mr E. Hedley Smith, B.L.; Mr F. W. Christie; Mr John M. Aitken; Mr James I. Davidson; Mr John Cran; Mr William T. Malcolm; Mr R. Shirra Gibb; Mr John Speir. *Treasurer*—Sir James H. Gibson-Craig, Bart. *Hon. Secretary*—Mr Alex. M. Gordon. *Chemist*—Mr James Hendrick, B.Sc. *Auditor*—Mr William Home Cook, C.A. Mr David Wilson in the Chair.

Edinburgh Show, 1907.

Forage.—It was resolved to accept the offer of the Forage Supply Co., 16 Stafford Street, Edinburgh, to supply forage for the Edinburgh Show.

Stewards.—The Stewards of the various departments were reappointed as follows: Cattle—Rev. Dr Gillespie; Horses—Mr Ferguson, Pictstonhill, and Mr Leadbetter, Legerwood; Sheep, Swine, &c.—Mr Wilson, Edinburgh; Forage—Mr W. T. Malcolm, Dunmore Home Farm; Parade Stands—Mr Paton, Broomhill; Gates—Mr M'Hutchen Dobbie, Campend; Implements—Mr Middleton.

Hotel Accommodation.—The SECRETARY stated that arrangements had been completed for accommodation for the Directors and Judges during the Show at the Caledonian Railway Hotel, Edinburgh.

Judging Ayrshire Cows.—The Minutes of Meeting of Special Committee, 9th January, were submitted and approved. The Minutes detailed the Regulations adjusted for the judging of Ayrshire Cows, these Regulations to be printed in the Premium List for the Edinburgh Show.

President's Medals.—The SECRETARY stated that the Duke of Buccleuch desired to offer a President's Medal as usual for each breed of live stock, and was agreeable that this Medal in each section should be awarded to the best animal of the opposite sex to that of the winners of the Prince of Wales' Champion Gold Medal.

The offer of his Grace was cordially accepted, and the Secretary was instructed to convey to him the best thanks of the Directors.

Special Prizes for Blackface Tups.—A letter was read from Mr Howatson of Glenbuck offering the following Special Prizes: For best Shearling Blackface Tup entered in the ordinary Class, clipped on or after 1st April 1907, no part of the animal to be clipped prior to that date—Prizes, £10, £5, and £2.

The offer was cordially accepted, and the Secretary was instructed to convey the best thanks of the Board to Mr Howatson.

Veterinary Surgeon.—Principal Dewar, of the Royal (Dick) Veterinary College, was appointed Veterinary Surgeon for the Edinburgh Show, at the usual fee of ten guineas.

Butter-Making Competition.—The SECRETARY stated that he had been asked whether the Society would be disposed to organise Butter-Making Competitions in the Edinburgh Show.

It was unanimously resolved that no Butter-Making Competitions be held, but that Butter-Making Demonstrations be given at the Working Dairy in the Showyard, as in recent years.

Prizes for Hunting Horses.—The SECRETARY stated that the Special Committee appointed at last Meeting of the Board to adjust the classes and prizes for Hunting Horses asked to be allowed to go the length of £250 in prize-money from the Society's own funds.

This was agreed to, and powers were given to the Committee to arrange the classes and prizes.

Alcoholic Drinks in the Showyard.

The SECRETARY submitted the following Report: Circulars were issued to all exhibitors in the Implement Department of the last three Shows inviting them to say

whether or not they approved of the proposal to prohibit the free distribution of alcoholic drinks from stands in the Show.

Number of circulars issued	:	:	:	:	:	296
Number of replies received	:	:	:	:	:	181

Number of exhibitors who have not replied	115
---	---	---	---	---	---	-----

The 181 who replied answer as follows:—

For prohibition	:	:	:	:	:	163
Against	:	:	:	:	:	15
Neutral	:	:	:	:	:	3

On the motion of Mr SPEIR, seconded by Mr DUTHIE, it was unanimously resolved that the following provision be introduced into the Regulations for the Society's Annual Show: "The giving of alcoholic drinks to visitors at stands in the Shows is strictly prohibited."

Vacancy on the Board of Directors.

A letter was read from Mr Athole S. Hay of Marfield agreeing to nomination for election as an Ordinary Director for the Border District in room of the late Mr C. J. Cunningham.

Milk Records.

On the recommendation of the Milk Records Committee it was resolved that, for the first year under the new scheme of Attested Records, the Committee be authorised, if it should see fit, to make an additional special grant, not exceeding £8, in any case where, in the opinion of the Committee, such special grant may be necessary to enable work to be set agoing under the scheme.

Stirling Show, 1909.

The CHAIRMAN moved as follows: "That provided a suitable site is available, and satisfactory financial and other arrangements can be made, the Society's Show of 1909 be held in the Stirling District."

Mr MALCOLM seconded.

The Resolution was unanimously agreed to.

Grants.—It was agreed to recommend the renewal for the current year of the grant of £100 to the Kilmarzock Dairy School. It was resolved to recommend the renewal for the current year of the grant of £50 to the Lecturer on Forestry in the University of Edinburgh.

Judges were appointed for the Edinburgh Show.

Finance.

The Minutes of the Finance Committee were approved generally, and it was unanimously resolved that the matters relating to the Society's investments in heritable securities be remitted with powers to the Finance Committee.

PROCEEDINGS AT GENERAL MEETINGS.

GENERAL MEETING, 6TH JUNE 1906.

Dr SHIRRA GIBB, Vice-President, in the chair.

New Members.

160 candidates were balloted for and admitted as members.

Free Life Member.

The following winner of the Society's First-Class Certificate in Forestry, at the examination in April last, was elected a Free Life Member, in terms of the bye-laws: Wm. T. Stockley, Rose Villa, Garswood, near Wigan.

Office-Bearers.

The SECRETARY submitted the following list of office-bearers, as recommended by the Directors:—

President—The Duke of Buccleuch and Queensberry, K.G., K.T. *Vice-Presidents*—The Marquis of Linlithgow, K.T.; the Earl of Rosebery, K.G.; the Earl of Wemyss; Mr John Wilson (Chapelhill), Edinburgh. *Ordinary Directors*—James Stenhouse, Turnhouse, Cramond Bridge; W. S. Park, Hatton, Bishopton; J. Ernest Kerr, Harviestoun Castle, Dollar; Major F. J. Carruthers of Dormont, Lockerbie; David Ferrie, Parbroath, Cupar-Fife; E. Douglas Paton, Broomhill, Melrose; J. Douglas Fletcher of Rosehangh, Avoch, R.S.O. *Extraordinary Directors*—The Right Hon. the Lord Provost of Edinburgh; Sir W. S. Dick Cunyngham of Prestonfield, Bart.; Colonel Dundas, yr. of Arniston, Kirkhill, Gorebridge; H. T. N. Hamilton Ogilvy of Beil, Winton Castle, Pencaitland; Alex. Guild, W.S., 5 Rutland Square, Edinburgh; A. Agnew Ralston, Philipstoun House, Philipstoun; George Pendreigh, Dalhousie, Bonnyrigg; Harry Hope, Barneyhill, Dunbar; James S. Dickson, Damhead, Loanhead; E. Hedley Smith, Whittinghame, Prestonkirk; F. W. Christie, Dairsie Mains, Dairsie, R.S.O.; Andrew Ralston, Glamis; John M. Aitken Norwood, Lockerbie; James I. Davidson, Saughton Mains, Corstorphine; John Cran, Kirkton, Bunchrew, Inverness; Wm. T. Malcolm, Dunmore Home Farm, Larbert; Captain Clayhills Henderson of Invergowie, R.N., Dundee; R. Shirra Gibb, Boon, Lauder; Andrew Hutcheson, Beechwood, Perth; John Speir, Newton Farm, Newton, Glasgow. *Honorary Secretary*—Alex. M. Gordon of Newton, Inch, Aberdeenshire.

Agreed.

Life Members' Subscriptions.

Dr WILSON moved the resolution which had been adopted at the Directors' Meeting earlier in the day, for the raising of the rate of the Lower Life Subscription. He explained that this step had become necessary, because they were advised by the Actuary that, on account of the fall in the value of investments, the amount now payable by life members at the lower rate was not fairly relative to the amount paid by annual members. Dr GILLESPIE seconded.

Mr Geo. PRESTON of Strathore, while not disposed to move in a contrary direction, as he saw no hope of carrying such a motion in such a thin meeting, desired to keep his hands free. He did not agree with what the Directors were proposing. The result would be to discourage life members, and he thought that was a bad policy.

All the Society needed was funds to keep it going, and certainly there was no lack of that in this Society. Mr W. S. FERGUSON said that, even with the new proposals, the life members would have the best of it. Mr R. T. NAISMITH said that this was purely a question for an actuary, and there could be no doubt but that the proposal was thoroughly sound.

The resolution was adopted unanimously.

Peebles Show, 1906.

Mr SCOTT PLUMMER, Convener of the Local Committee, reported on the arrangements for the Show to be held at Peebles on the 17th of July and three following days.

Edinburgh Show, 1907.

It was reported that arrangements for the Edinburgh Show of 1907 are well advanced. The County Councils of Mid-Lothian and East Lothian had been good enough to agree to raise a voluntary assessment in aid of the funds of the Show. This course had not been followed by the County Council of West Lothian, but it is hoped that this county will contribute in other forms.

Aberdeen Show, 1908.

Mr ALEX. M. GORDON of Newton stated that arrangements are being pushed forward for the Show of 1908, to be held at Aberdeen. He had no doubt whatever that all the counties would contribute loyally. He saw that the Town Council of Aberdeen was to give £100, a free supply of water, and a free site, but, considering the fact that Sir David Stewart had said that last Show at Aberdeen brought £50,000 to £60,000 into the town, he thought the town might well afford to give a more generous donation than £100.

Education.

Dr GILLESPIE reported on this year's examinations for the National Diplomas in Agriculture and Dairying. In regard to the National Diploma in Agriculture, he stated that in all twenty-three educational institutions have sent one or more candidates to one or other of the seven examinations which have been held. The names of these institutions are as follows: English Institutions—Holmes Chapel, Cheshire; Uckfield Agricultural College; Armstrong College, Newcastle-on-Tyne; Aspatria College, Carlisle; Cambridge University; Harris Institute, Preston; Leeds University; Reading University College; Royal Agricultural College, Cirencester; South-Eastern Agricultural College, Wye; University College, Nottingham; Royal School of Mines, Kensington; Midland Agricultural and Dairy Institute, Derby; Hull and E. R. College; Tamworth Agricultural College. Scotch Institutions—Aberdeen University (North of Scotland Agricultural College); Edinburgh University (Edinburgh and East of Scotland College* of Agriculture); West of Scotland Agricultural College, Glasgow; St Andrews University. Welsh Institutions—Harper-Adams College, Newport; University College of North Wales, Bangor; University College of Wales, Aberystwyth. Irish Institutions—Royal College of Science, Dublin. The only schools or colleges of agriculture that have not been represented at either of the last two examinations are: Edinburgh and East of Scotland College of Agriculture; Downton College, Salisbury; Dauntsey Agricultural School, Wilts; and Midland Agricultural and Dairy Institute. He said that, as one who had been present at that examination, and not claiming to be a great agricultural expert, but simply, he hoped, one of several men of common-sense, they could testify that the examination was of the most satisfactory nature. While not conceding that examiners should be teachers, and, indeed, objecting altogether to teachers examining their own students in national tests, he pointed out that in eight of the eleven subjects examined, all those who were examiners had been teachers. He also remarked on the increased standard by which the students were tested as brought out by the results in successive years.

Mr HEDLEY SMITH wished to call attention to the fact that students could sit for the N.D.A. who had not attended any college. He also thought it was a mistake to suppose that teachers could not sit on the examining boards over their own students.

Science Department.

Dr WILSON of Carbeth, Convener of the Science Committee, reported on the work carried on under that Committee. He mentioned that the manure and mutton experiments are being continued this year on the same lines as formerly. He also indicated the steps taken by the Board of Directors for the amendment of the Fertilisers and Feeding Stuffs Bill.

The following Report by the Society's Chemist was read :—

Report on Analyses made during the Year 15th May 1905 to 15th May 1906.

During the year 126 samples were analysed for members by the chemist. These included fertilisers, feeding-stuffs, waters, milks, soils, and miscellaneous samples. The fertilisers included a considerable number of samples of ground lime. In many cases these were of very low quality. When a guarantee was given, the samples were frequently below the guarantee. This subject has already been referred to in the report of the chemist on analyses made for the members during 1905 ('Transactions,' 1906, p. 77). There is some improvement noticeable in samples of ground lime received during 1906; but several samples have been received quite recently with a guarantee of 70 per cent of caustic lime, which were seriously deficient in this constituent.

Samples of potash manure salt, which is a low-grade muriate of potash, are still often sold as sulphate of potash. There is a great difference in value between the two manures.

During the year internal organs of animals were on several occasions sent to be examined for poisons. These included a case of poisoning by Java beans. It is most important that members should remember that, in forwarding samples of internal organs to be examined for poisons, all possible information as to symptoms, *post-mortem* appearances, &c., should be sent to the chemist. It is often almost impossible to detect poisons, especially the less common vegetable poisons, unless such information of a pathological kind is given to the chemist as will enable him to judge what class of poison he is to look for. In a case of poisoning, if a veterinary expert has been called in before or after death, he should be put into communication with the chemist, and asked to give him all the assistance he can.

Botanical Report.

The following report by the consulting botanist was read: I have the honour to report that during the past season I have examined 200 samples of grass and clover seeds. The standard of the seeds was, as a rule, very high, the two most conspicuous exceptions being a low-class white clover and a low-class Italian ryegrass. The maximum and minimum values of the samples tested, obtained by multiplying percentage of purity by percentage of germination and dividing by 100, was—

SPECIES.	Max. value.	Min. value.
Red clover	99	92
Cowgrass		92
Alsike	99	82
White clover .	97	74
Trefoil	98	93
Kidney vetch	94	90
Perennial ryegrass	99	87
Italian ryegrass	100	68
Meadow fescue	100	83
Tall fescue .	92	80
Hard fescue .	96	65
Cocksfoot .	97	65
Timothy .	99	92
Crested dogstail	98	90
Meadow foxtail	80	65
Rough-stalked meadow grass	94	80
Chicory	95	80
Burnet	93	87

Argyll Naval Fund—Centenary of the Fund.

Captain CLAYHILLS HENDERSON stated that this fund was founded a century ago by John, fifth Duke of Argyll, who was the original president of the Highland and Agricultural Society. The main object his Grace had in view in establishing the fund was to encourage young men from Highland districts to enter the Royal Navy. In January 1806 the Duke paid over a sum of £1000 to the Highland and Agricultural Society, the hope being entertained that subscriptions from other sources might be forthcoming. The management of the fund having been entrusted to the directors of the Highland and Agricultural Society, the £1000 was at once invested by that body, and efforts were made, but without success, to obtain additional subscriptions. The sum was allowed to accumulate till the end of 1826, when it amounted to £2314. A committee was then appointed to formulate conditions for the application of the proceeds of the fund, and in 1827 the first set of regulations were published. These

regulations provided that the fund be devoted exclusively to the encouragement of the naval profession, and that "the younger sons of Highland gentlemen only be allowed to participate in it." These regulations were modified slightly from time to time. In 1857 the clause restricting the benefits of the fund to "younger sons" was omitted, and the fund made available for "the son of any gentleman connected with the Highlands." The districts to which it was understood the fund was to be devoted are the counties of Argyll, Inverness, Nairn, Ross, Cromarty, Sutherland, and Caithness, and the Gaelic parts of Perth, Moray, Banff, Aberdeen, and Bute and Arran. The first recipient received £10 in 1837, four recipients having obtained grants amounting to £380 by the end of 1837. From 1837 to 1844 there were no applicants, although the vacancies were regularly advertised. Meantime the fund kept on growing, and it had reached £4700 by 1844, when the annual allowance was increased to £40. The fund now amounts to £7387, yielding an income of £222 per annum. At present there are five beneficiaries on the list, each receiving a grant of £40 a-year. In all, forty-eight cadets have received the benefit of the fund, the total sum paid to them to the present date amounting to £9746. The beneficiaries of the fund have given a creditable account of themselves in the Royal Navy. One (Sir John M'Dougall, K.C.B.) became a vice-admiral, two rear-admirals (Sir Charles Campbell, K.C., M.G., C.B., D.S.O., and Robert A. I. Montgomerie, C.B., C.M.G.), two captains (Charles Dundas of Dundas and George P. W. Hope), eleven commanders (George Pirie, Soudan medal, and Edward W. E. Wemyss, gazetted for gallantry in action, 1894), while twelve reached the rank of lieutenant, Colin Mackenzie getting D.S.O., and Percy L. H. Noble M.V.O.

**GENERAL MEETING IN THE SHOWYARD AT PEEBLES,
18TH JULY 1906.**

Sir WALTER THORBURN, President of the Society, occupied the chair.

The CHAIRMAN at the outset acknowledged the honour done him, and said he had accepted the position of president mainly because he regarded it as an honour done to the county more than to himself. He assured the members of the desire of the town and district to make the Show so successful as to cause the Society to repeat its visit to Peebles.

Mr JOHN MACPHERSON-GRANT moved a vote of thanks to the Provost, Magistrates, and Town Council of Peebles, remarking upon the enthusiasm with which the civic representatives had worked for the Society in its visit to their town.

Mr JONATHAN MIDDLETON, Glasgullich, seconded, which was cordially adopted.

Provost BALLANTINE, replying, said he supposed there had been differences of opinion as to where the Show should be held this year; but if he gauged the temper of the members of the Society correctly, there were fewer now who disagreed with Peebles being the Show centre, and he hoped, with a continuance of the good weather, the Show would in every way be a great success.

Mr A. M. GORDON, to whom fell the duty of moving the resolution of thanks to the subscribers of the Local Show Fund, mentioned that the town of Peebles and the counties comprising the Show district had acted very liberally, nearly £1500 being contributed to the local fund. He hoped other districts would follow the example of Peebles and act with equal liberality.

Mr ALEX. CROSS seconded, and the motion was adopted unanimously.

Dr GILLESPIE, proposing a vote of thanks to Mr Scott Plummer, the convener, and the members of the Local Show Committee, testified to the capacity shown in carrying out the arrangements.

The motion was seconded by Mr MARR, carried unanimously, and responded to by Mr SCOTT PLUMMER.

The CHAIRMAN said a very pleasing duty now fell upon him, and that was to propose a vote of thanks to Sir Thomas Elliott, Secretary of the Board of Agriculture, for coming from London to be present at the Show. He thought it promised well for agriculture when they found that, whatever Government was in office, the Board of Agriculture was always to the front in connection with shows or with anything of interest to agriculture.

Sir THOMAS ELLIOTT, who had a cordial reception on rising to acknowledge the vote, said he desired to express, not only on his own behalf but on behalf of his colleagues of the Board of Agriculture, their most grateful thanks for the kind hospitality and the goodness of the reception extended, not only on the occasion of this Show, but on all occasions of the gathering of the Highland and Agricultural

Society. It was a matter of great regret to him that Lord Carrington and Sir Edward Strachey, who represented the Board in the House of Commons, were not able to be present with them that day, because it would have done them good to come in contact with Scottish agriculturists, and to be heartened, as members of the Board were always heartened, by the good feeling and fellowship which prevailed on this side of the Tweed. On behalf of Lord Carrington and Sir Edward Strachey he had to state that they were engaged in what might be called harvesting operations in Westminster, and the little crop of bills which it had been their duty to look after in the agricultural interest was really, he thought, going to be this session quite a fairly good crop. They had, he thought, reasonable hope for expecting that they would get the Royal assent this year to the Fertilisers and Feeding-Staffs Bill. That bill, he believed, without doing in any way injury to the trade, would be a substantial benefit to the agriculturist in making it certain that he would get good value for his money. He believed they would also get the Dogs Bill which, he thought, would do something to minimise the very serious evil they all suffered from in regard to the worrying of sheep. He did not know that it would altogether remove the mutton-loving dog from their midst, but it would provide Local Authorities with machinery to assist agriculturists in dealing with the evil. He hoped also that they would get a bill for acquiring open spaces, which, although not an essentially agricultural bill, would be of great service to all classes of the population in securing for them means of procuring fresh air and recreation. In addition to the harvesting operations they had also sown the seed of a future crop in the shape of what he hoped would remove the difficulties in regard to the adulteration of butter. Butter was an article that had been subjected to more unfair competition than anything else, and although perhaps in Scotland that competition had not been felt so severely as in other parts, no doubt legislation was required to put an end to the abuse.

Exhibitors leading their Stock.

Mr SHENNAN, Balig, Kirkcudbright, drew the attention of the meeting to the regulation prohibiting exhibitors from leading their own animals before the judges. He held that it pressed heavily on many of the exhibitors, especially on the smaller tenant-farmer class. He did not think it fulfilled the object in view, because the stud-groom and the herdsman were quite as well known to the judges as the owners of the animals they paraded were, and, in addition, it was not complimentary to the judges. He moved that the meeting ask the Directors to reconsider the regulation.

Mr THOMAS GRAHAM, Marchfield, Dumfries, seconded.

Mr ROBERT GARDINER of Henhill, Auchterarder, thought the Directors had taken a wise step, and he moved as an amendment that the regulation stand.

Mr SCOTT, South Woodend, seconded.

Rev. Dr GILLESPIE supported the motion. He thought that it really carried absurdity on the face of it. If their judges could not be trusted they should not be there. This spirit of suspicion that was abroad should be trampled upon, and if a spirit of mutual trust were more cultivated it would be much better for all parties.

Mr FERGUSON, Pictatonhill, also supported the motion, which was ultimately carried by a large majority.

A vote of thanks to the Chairman, awarded on the call of Lord Tullibardine, concluded the proceedings.

GENERAL MEETING, 9TH JANUARY 1907.

Dr WILSON of Carheth in the chair.

New Members.

137 candidates were balloted for and admitted as members.

New Directors.

Mr G. E. N. Leith-Hay of Leith Hall, Kennethmont, was elected a Director in place of Mr A. M. Gordon of Newton, who has been appointed Honorary Secretary; and Mr Athole S. Kay of Marfield was elected an Ordinary Director for the Border district in room of the late Mr C. J. Cunningham.

Finance.

Sir JAMES GIBSON-CRAIG laid on the table the volume of accounts for the year to 30th November 1906, as prepared by the Society's Auditor. The Peebles Show had left a credit balance of £415, thanks mainly to a local fund amounting to £1489. The total receipts from members' subscriptions amounted to £2046, being £157 less than for 1904-5. The balance of receipts over expenditure was £1800, including £950 of life subscriptions. The total payments for the year amounted to £10,694.

Argyll Naval Fund.

Mr CROSS submitted the accounts of the Argyll Naval Fund for 1905-6, which showed that the income for the year amounted to £221, 19s. 4d., while the expenditure was £200—in grants of £40 each to five naval cadets. No vacancy occurred during the year in the list of beneficiaries.

Lower Life Subscriptions.

Sir JAMES GIBSON-CRAIG moved the alteration in the Bye-laws recommended by the Directors—viz.: That Bye-law No. 2 be altered so as to provide that the payment for the purchase of a life subscription be £7, 7s. instead of £5, 5s., and that after eight annual payments of 10s. have been made, a life subscription may be purchased for £5, 5s., and after twelve such payments for £3, 3s. The fact was, he said, that money did not go as far now as it used to do. He explained the actuarial calculations on which the recommendations were based, which showed that at the present rate the life subscription was not sufficient. Every man, he was sure, would like to pay his way.

Mr JOHN MARR seconded.

Mr HEDLEY SMITH asked if these new Bye-laws were to take effect in connection with the members elected that day.

The CHAIRMAN replied to the effect that they would not. They would apply only to members elected after that day.

The motion was unanimously agreed to.

Peebles Show.

Mr H. M. LEADREITER, in the absence of the Convener of the Local Committee, reported on the Peebles Show of 1906. The results of the Show had in every way exceeded expectations. The weather was moderately favourable, the attendance of the public was gratifyingly large, and the drawings all over were so handsome that, instead of resulting in a loss, as was anticipated, the Show left a profit of £415.

Edinburgh Show, 1907.

Sir JAMES GIBSON-CRAIG reported that arrangements are making good progress for the Show of 1907, which is to be held at Edinburgh on Tuesday, 9th July, and three following days. It has been arranged by the President of the Society, his Grace the Duke of Buccleuch, that their Royal Highnesses the Prince and Princess of Wales will visit the Show on the second and third days, the 10th and 11th of July, and will witness the parades of stock and jumping competitions. Already the intimation of the Royal visit has aroused much gratification and interest throughout all parts and all classes in the country, and there is every reason to believe that the Show will form an outstanding event in the history of the Society. The Show will be held on the ground at Prestonfield, where the great Show of 1899 took place. A specially liberal prize-list is being arranged. The County Councils of Mid-Lothian and East Lothian are raising funds by means of voluntary assessments in aid of the Show. In West Lothian a fund is being raised by private subscriptions. They must try and do better than they did in 1899. They drew over £10,000 then, and they must do better this time.

Aberdeen Show, 1908.

Mr A. M. GORDON reported that some progress had been made with the arrangements for the Show of 1908, to be held at Aberdeen. The Town Council of Aberdeen, besides voting a contribution of £100, had granted a site for the Show on the Links, along with a supply of water, both free of charge. The County Councils of Aberdeen and Banff had resolved to raise funds in aid of the Show by means of voluntary assessments on owners of lands and heritages, and it was hoped that this example will be followed by the County Councils of Forfar (Eastern Division) and Kincardine. He hoped they would be able to get the Council of Aberdeen to increase their subscription.

Board of Agriculture.

Rev. Dr GILLESPIE moved that the members of the Highland and Agricultural Society strongly disapprove of the proposal made in a Government Bill recently before Parliament to transfer the powers of the Board of Agriculture in Scotland to Commissioners, under the Secretary of State for Scotland. He said that everywhere throughout Scotland they had been well satisfied with the result of the establishment and operation of the Board of Agriculture, and this proposed change would be a very backward step indeed. They had a great national Board, occupying a very independent and important position. He thought Mr Chaplain did a very great service indeed when he absolutely refused to become President of the Board at its institution unless he was given Cabinet rank. They wanted the Board to be in touch with the Government. Under this change which it was proposed to make they would have a civil servant administering in Scotland. Such a man would have very little influence, especially in connection with money matters. They required one who would be able to reach the ear of the Treasury. The Board of Agriculture, through its President, kept in close and constant touch with Scotland and Scotch interests. Then as to the question of rules and regulations in regard to the removal of stock and such like, it was a most important thing that there should be uniformity all over the two countries. Were there two organisations there might be the most conflicting orders, and the result would be stagnation in trade. It was most desirable that whatever regulations were in force should be uniform throughout both parts of the kingdom. He thought they should put their foot down firmly in the matter, and express the hope that agricultural societies and others interested throughout Scotland would make their views heard, and let the Cabinet understand that, if they repeated the proposal, the heather would be on fire.

Mr W. S. PARK seconded, and the motion was unanimously agreed to.

Stirling Show, 1909.

The CHAIRMAN moved that, provided a suitable site is available, and satisfactory financial and other arrangements can be made, the Society's Show of 1909 be held in the Stirling district.

Mr ANDERSON seconded, and the motion was agreed to.

District Shows and Competitions.

Mr JOHN SPEIR submitted the report on the district shows and competitions, showing that in 1906 grants of money and medals have been given in 324 districts. The total expenditure under this head amounted to £669. For the current year the Directors proposed the following grants: (1) Under Section 1, twenty-one districts for grants of £12 each for cattle, horses, and sheep, and eleven districts in intermediate competition with a grant of three silver medals to each. (2) Under Section 2, fifteen districts for grants of £15 each for stallions. Special grants of £40 for Highland home industries; £20 to Kilmarnock Cheese Show; £3 each to Orkney, East Mainland, and Sanday in Orkney. Twenty-one districts for two medals each. About 150 medals at ploughing competitions. Two medals each to thirteen districts for cottages and gardens,—making the total sum offered in 1907, £667. He thought they were doing more for local societies than was publicly known.

Mr JOHN MARR, in seconding, said that he was sure that the money that they spent all over the country in aid of local societies did far more than the value of the money to popularise that Society, and did real good. It brought the Society into notice, and it was only right that the national Society should do what it was doing to encourage local effort.

The report and recommendations were unanimously adopted.

Science Department.

Mr JAMES HENDRICK submitted the report on the work of this department. During the year 149 samples were analysed for members by the chemist. Of these, 85 were fertilisers, 34 feeding-stuffs, and 30 miscellaneous samples, including waters, milks, and viscera of animals for examination for poisons. Of the fertilisers 19 samples consisted of lime. Though these were of rather better quality than in 1905, a large number of the samples were again of low quality. In accordance with the desire of the Directors that further steps should be taken to expose cases of deficiency or fraud, a circular was drawn up, and a copy of this has been sent, along with the analysis, to each member who submitted a sample of a fertiliser or feeding-stuff. The circular requests members to give the chemist information as to any guarantee under which the goods were sold; as to the price, and as to any other points likely

to be of assistance in forming an opinion whether the article sampled was good of its kind, and worth the money paid for it. Several samples of fertilisers and feeding-stuffs have been found to be deficient or adulterated, but no action has as yet been taken by the members who submitted the samples to expose the vendors, with the help of the Society. During the year some investigations were made into the origin, nature, and properties of poisonous beans from Java, which caused serious trouble among cattle on several farms in the latter part of 1905 and the early part of 1906. A full report on these investigations will be submitted in due course. Some experiments upon the quality of turnips grown in different districts have been made during the year. The pasture and mutton experiments at Sunderland Hall, Boon, and Naemoor have been continued, and further interesting results have been obtained. At all these stations the manures applied in 1902 are still producing appreciable results. At Boon, in particular, the effects of the manuring are apparently becoming more marked with the lapse of time. The full return obtained from the application of these manures can only be estimated by taking the results for a considerable number of years.

Mr PRENTICE, Strathore, wondered if the Society could do anything in the way of instituting or helping prosecutions of those who sold deficient stuffs. It was not a nice thing for an individual, especially a small farmer, to raise this question with a large dealer. With regard to the experiments, he thought that now that agricultural colleges had been instituted, and had received grants from the Society, they should undertake this work. The Directors should, therefore, consider whether or not these experiments should be given up. It was all very well to undertake them at the time they were begun, and they had done a great deal of good, but the times had changed.

Dr GILLESPIE, as chairman of the governors of one of the agricultural colleges, said they would be quite willing to undertake the work if the Society gave them annual grants, but it did not do that. As to the question of prosecutions, he pointed out that the County Councils had increased powers of testing manures and feeding-stuffs, and they should put the law in motion. They had powers to take samples whether the buyers wished it or not, and he hoped they would exercise these powers. It was a most important matter that they should do so, not only for the sake of putting down general adulteration, but for giving fair-play to honest traders.

The CHAIRMAN pointed out that the members of the Society had the privilege of having samples analysed by the chemist. With regard to the experiments, he did not think Mr Prentice would wish them to discontinue the one they were engaged in till they had carried it out to the end. Then there were matters which might crop up in the future. But he was sure that the institution of any new experiment would be carefully considered in the light of what Mr Prentice had said, because the Directors fully recognised the justice of his remarks.

Forestry.

Sir ARCHD. BUCHAN HEPBURN moved that the annual grant of £50 to the Lectureship on Forestry in the University of Edinburgh be continued for the current year. He reported that the next examination for the Society's certificate in forestry would take place in the Society's Chambers on Tuesday, Wednesday, and Thursday, the 9th, 10th, and 11th of April, entries closing on 8th March.

Sir R. MONCRIEFF seconded, and the motion was agreed to.

Education.

Rev. Dr GILLESPIE reported on the results of the examinations held in England and Scotland last autumn for the National Diploma in Dairying. At the examination in England there were 32 candidates, of whom 19 obtained the diploma; at the Scotch examination 22 candidates, of whom 14 got the diploma. The names of these successful candidates, as well as of those who obtained the National Diploma at Leeds in May last, will be published in the next volume of the Society's 'Transactions.' He moved that the annual grant of £100 to Kilmarnock Dairy School be continued for the current year.

Mr CROSS seconded, and the motion was agreed to.

Publications.

Rev. Dr GILLESPIE reported that the Publications Committee had completed arrangements for the volume of 'Transactions' to be published in the approaching spring.

Lord TULLIBARDINE moved a vote of thanks to the Chairman, after which the proceedings terminated.

APPENDIX A

PREMIUMS

OFFERED BY

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND IN 1907

CONTENTS.

	PAGE
GENERAL NOTICE	3
CONSTITUTION AND MANAGEMENT	3
PRIVILEGES OF MEMBERS	4
ESTABLISHMENT FOR 1906-1907	5
COMMITTEES FOR 1906-1907	7
MEETINGS FOR 1907	10
EXAMINATIONS FOR 1907	11
AGRICULTURAL EDUCATION	12
VETERINARY DEPARTMENT	20
FORESTRY DEPARTMENT	20
DAIRY DEPARTMENT	26
CHEMICAL DEPARTMENT	31
BOTANICAL DEPARTMENT	38
GENERAL REGULATIONS FOR COMPETITORS	40

CLASS I.—REPORTS.

1. THE SCIENCE AND PRACTICE OF AGRICULTURE—FOR APPROVED REPORTS ON—

- | | |
|--|----|
| 1. Rural Economy abroad susceptible of being introduced into
Scotland | 41 |
| 2. Other suitable subjects | 41 |

2. ESTATE IMPROVEMENTS—FOR APPROVED REPORTS ON—

- | | |
|--|----|
| 1. General Improvement of Estates by Proprietors | 41 |
| 2, 3, and 4. Reclamation of Waste Land by Proprietors or
Tenants | 41 |
| 5 and 6. Improvement of Natural Pasture by Proprietors or
Tenants | 42 |

3. HIGHLAND INDUSTRIES AND FISHERIES—FOR APPROVED REPORTS ON—

- | | |
|---|----|
| 1. Mode of treating Native Wool | 42 |
|---|----|

4. MACHINERY—FOR APPROVED REPORTS

	42
--	----

5. FORESTRY DEPARTMENT—FOR APPROVED REPORTS ON—	
1. Planting on Peat-bog	43
CLASS II.—DISTRICT COMPETITIONS.	
1. STOCK	43
2. SPECIAL GRANTS	48
3. MEDALS in aid of Premiums given by Local Societies	49
4. PLOUGHING COMPETITIONS	52
CLASS III.—COTTAGES AND GARDENS.	
1. PREMIUMs for BEST KEPT COTTAGEs and GARDENs	53
2. MEDALS for COTTAGES and GARDENs or GARDEN PRODUCE and BEE-KEEPING	54
GENERAL SHOW AT EDINBURGH IN 1907	57
GENERAL SHOW AT ABERDEEN IN 1908	84

GENERAL NOTICE.

THE HIGHLAND SOCIETY was instituted in the year 1784, and incorporated by Royal Charter in 1787. Its operation was at first limited to matters connected with the improvement of the Highlands of Scotland; but the supervision of certain departments, proper to that part of the country, having been subsequently committed to special Boards of Management, several of the earlier objects contemplated by the Society were abandoned, while the progress of agriculture led to the adoption of others of a more general character. The exertions of the Society were thus early extended to the whole of Scotland, and have since been continuously directed to the promotion of the science and practice of agriculture in all its branches.

In accordance with this more enlarged sphere of action, the original title of the Society was altered, under a Royal Charter, in 1834, to THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

Among the more important measures which have been effected by the Society are—

1. Agricultural Meetings and General Shows of Stock, Implements, &c., held in the principal towns of Scotland, at which exhibitors from all parts of the United Kingdom are allowed to compete.

2. A system of District Shows instituted for the purpose of improving the breeds of Stock most suitable for different parts of the country, and of aiding and directing the efforts of Local Agricultural Associations.

3. The encouragement of Agricultural Education, under powers conferred by a supplementary Royal Charter, granted in 1856, and authorising the Society to grant Diplomas to Students of Agriculture; and by giving grants in aid of education in Agriculture and allied sciences. In 1900 the Society discontinued its own Examination, and instituted jointly with the Royal Agricultural Society of England an Examination for a National Diploma in Agriculture.

4. The advancement of the Veterinary Art, by conferring Certificates on Students who have passed through a prescribed curriculum, and who are found, by public examination, qualified to practise. Terminated in 1881 in accordance with arrangements with the Royal College of Veterinary Surgeons.

5. The institution of a National Examination in Dairying, jointly with the Royal Agricultural Society of England.

6. The institution of an Examination in Forestry for First and Second Class Certificates.

7. The appointment of a chemist for the purpose of promoting the application of science to agriculture.

8. The establishment of a Botanical Department.

9. The appointment of Entomologist to advise members regarding insect pests.

10. The annual publication of the 'Transactions,' comprehending papers by selected writers, Prize Reports, and reports of experiments, also an abstract of the business at Board and General Meetings, and other communications.

11. The management of a fund left by John, 5th Duke of Argyll (the original President of the Society), to assist young natives of the Highlands who enter His Majesty's Navy.

CONSTITUTION AND MANAGEMENT.

The general business of THE HIGHLAND AND AGRICULTURAL SOCIETY is conducted under the sanction and control of the Royal Charters, referred to above, which authorise the enactment of Bye-Laws.

The Office-Bearers consist of a President, Four Vice-Presidents, Thirty-two Ordinary and Twenty Extraordinary Directors, a Treasurer, an Honorary and an Acting Secretary, an Auditor, and other Officers.

The Supplementary Charter of 1856 provides for the appointment of a Council on Education, consisting of Sixteen Members—Nine nominated by the Charter and Seven elected by the Society.

PRIVILEGES OF MEMBERS

MEMBERS OF THE SOCIETY ARE ENTITLED—

1. *To receive a free copy of the 'Transactions' annually.*
2. *To apply for District Premiums that may be offered.*
3. *To report Ploughing Matches for Medals that may be offered.*
4. *To Free Admission to the Shows of the Society.*
5. *To exhibit Live Stock and Implements at reduced rates.¹*
6. *To have Manures and Feeding-Stuffs analysed at reduced fees.*
7. *To have Seeds tested at reduced fees.*
8. *To have Insect Pests and Diseases affecting Farm Crops inquired into.*
9. *To attend and vote at General Meetings of the Society.*
10. *To vote for the Election of Directors, &c., &c.*

ANALYSIS OF MANURES AND FEEDING-STUFFS

For list of the Fees of the Society's Chemist for Analyses made for Members of the Society, see Chemical Department.

The Society's Chemist, if requested, also supplies valuations of manures, according to the Society's scale of units.

SEEDS, CROP DISEASES, INSECT PESTS, &c.

For list of the fees for the examination of plants and seeds, crop diseases, insect pests, &c., see Botanical and Entomological Departments.

ELECTION OF MEMBERS

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January and June. It is not necessary that the proposer should attend the Meeting.

CONDITIONS OF MEMBERSHIP

Higher Subscription.—The ordinary annual subscription is £1, 8s. 6d., and the ordinary subscription for life-membership is £12, 12s.; or after ten annual payments have been made, £7, 7s.

Lower Subscription.—Proprietors farming the whole of their own lands, whose rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £7, 7s., and that after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 3s.² Subscriptions are payable on election, and afterwards annually in January.

According to the Charter, a Member who shall not have objected to his election, on the same being intimated to him by the Secretary, cannot retire until he has paid, in annual subscriptions or otherwise, an amount equivalent to a life composition.

Members are requested to send to the Secretary the names and addresses of Candidates they have to propose (stating whether the Candidates should be on the £1, 8s. 6d. or 10s. list).

JAMES MACDONALD, *Secretary.*

3 GEORGE IV. BRIDGE, EDINBURGH.

¹ Firms are not admitted as Members; but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

² Candidates claiming to be on the 10s. list must state under which of the above designations they are entitled to be placed on it.

ESTABLISHMENT FOR 1906-1907

President.

THE DUKE OF BUCOLEUCH AND QUEENSBERRY, K.G., K.T., Dalkeith House, Dalkeith.

Vice-Presidents.

THE MARQUIS OF LINLITHGOW, K.T., Hopetoun House, South Queensferry.
 THE EARL OF ROSEBERRY, K.G., Dalmeny Park, Edinburgh.
 THE EARL OF WEMYSS AND MARCH, Garsford House, Longniddry.
 JOHN WILSON, Chapulhill, Lauder Road, Edinburgh.

Ordinary Directors.

Year of
Election.

- | | |
|------|--|
| | CHARLES HOWATSON of Glenbuck, Glenbuck, N.B. |
| | SIR ROBERT D. MONCREIFFE of Moncreiffe, Bart., Bridge of Earn. |
| | JOHN MURRAY, Munnieston, Kippen Station, Stirling. |
| 1903 | SIR ARCHIBALD BUCHAN HERBURN of Smeaton, Bart., Prestonkirk. |
| | JOHN MARR, Upper Mill, Tarves. |
| | Very Rev. JOHN GILLESPIE, LL.D., Mouwald Manse, Ruthwell, R.S.O. |
| | JONATHAN MIDDLETON, Glastullich, Nigg, Ross-shire. |
| | C. H. SCOTT PLUMMER of Sunderland Hall, Selkirk. |
| | JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith. |
| | WILLIAM TAYLOR, Park Mains, Renfrew. |
| | W. S. FERGUSON, Pictstonhill, Perth. |
| 1904 | DAVID WILSON, D.Sc., of Carbeth, Killearn. |
| | THOMAS GORDON DUFF of Drummur, Keith. |
| | Colonel ROBERT F. DUDGEON of Cargen, Dumfries. |
| | JOHN MACPHERSON-GRANT, Old Milton, Kingussie. |
| | H. M. LEADBETTER, Legerwood, Earliston. |
| | Captain THOMAS HOPE of Bridge Castle, Westfield, Linlithgowshire. |
| | ALEXANDER CROSS of Knockdon, 19 Hope Street, Glasgow |
| | A. H. ANDERSON, Kippendarie Estate Office, Dunblane. |
| 1905 | MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle, Blair Atholl. |
| | ATHOLE S. HAY of Marlefield, Roxburgh. |
| | JOHN M'CAIG, Challock, Leswalt, Stranraer. |
| | WILLIAM DUTHIE, Tarves, Aberdeenshire. |
| | C. M. CAMERON, Balnakyle, Munlochry. |
| | JAMES STENHOUSE, Turnhouse, Cramond Bridge. |
| | W. S. PARK, Hatton, Bishopton. |
| | J. ERNEST KERR, Harviestoun Castle, Dollar. |
| 1906 | Major F. J. CARRUTHERS of Dornmont, Lockerbie. |
| | DAVID FERRIE, Parbroath, Cupar-Fife. |
| | E. DOUGLAS PATON, Broomhill, Melrose. |
| | CHAS. E. N. LEITH HAY of Leith Hall, Kennethmont. |
| | J. DOUGLAS FLETCHER of Rosehaugh, Avoch, R.S.O., Ross-shire. |

Extraordinary Directors.

	The Right Hon. JAMES P. GIBSON, Lord Provost of Edinburgh.
	Sir WILLIAM DICK CUNYNGHAM of Prestonfield, Bart., 18 Hobart Place, Grosvenor Gardens, London, S.W.
	Colonel ROBERT DUNDAS, yr. of Arniston, Kirkhill, Gorebridge.
	H. T. N. HAMILTON OGILVY of Biel, Winton Castle, Pencaitland.
1906	ALEXANDER GUILD, W.S., 5 Rutland Square, Edinburgh.
	A. AGNEW RALSTON, Philpstoun House, Philpstoun, West Lothian.
	GEORGE PENDREIGH, Dalhousie, Bonnyrigg.
	HARRY HOPE, Barneyhill, Dunbar.
	JAMES S. DICKSON, Damhead, Loanhead.
	E. HEDDLY SMITH, B.L., Whittinghame, Prestonkirk.
	F. W. CHRISTIE, Dairsie Mains, Dairsie, R.S.O.
1904	ANDREW RALSTON, Glamis.
	JOHN M. AITKEN, Norwood, Lockerbie.
	JAMES I. DAVIDSON, Saughton Mains, Corstorphine.
1905	JOHN CRAN, Kirkton, Bunchraw, Inverness.
	WILLIAM T. MALCOLM, Dunmore, Larbert.
	Captain G. D. CLAYHILLS HENDERSON of Invergowrie, R.N., Dundee.
1906	R. SHIRRA GIBB, Boon, Lauder.
	ANDREW HUTCHESON, Beechwood, Perth.
	JOHN SPEIR, Newton Farm, Newton, Glasgow.

Office-Staff.

Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., *Treasurer*.
 ALEXANDER M. GORDON of Newton, Inverness, *Honorary Secretary*.
 JAMES MACDONALD, F.R.S.E., *Secretary*.
 Rev. ARCHIBALD SCOTT, D.D., *Chaplain*.
 JAMES HENDRICK, B.Sc., F.I.C., Agricultural Department, Marischal College, Aberdeen, *Chemist*.
 Professor R. STANFIELD, A.R.S.M., M.Inst. C.E., F.R.S.E., 34 George Square, Edinburgh, *Consulting Engineer*.
 A. N. M'ALPINE, 6 Blythwood Square, Glasgow, *Consulting Botanist*.
 R. S. MACDOUGALL, M.A., D.Sc., 13 Archibald Place, *Consulting Entomologist*.
 WILLIAM HOME COOK, C.A., 42 Castle Street, *Auditor*.
 TODD, MURRAY, & JAMIESON, W.S., *Law Agents*.
 JOHN MACDIARMID, *Clerk*.
 EDWARD M. COWIE, *Second Clerk*.
 WILLIAM BLACKWOOD & SONS, 45 George Street, *Printers and Publishers*.
 KEITH & Co., 43 George Street, *Advertising Agents*.
 G. WATERSTON & SONS, 35 George Street, *Stationers*.
 THOMAS SMITH & SONS, 47 George Street, *Silversmiths*.
 ALEXANDER KIRKWOOD & SON, 9 St James' Square, *Medallists*.
 JOHN WATERSTON & SONS, *Inspectors of Works*.
 D. MACANDREW & Co., 120 Loch Street, Aberdeen, *Showyard Contractors*.
 WILLIAM SIMPSON, *Messenger*.

Chairmen of Board of Directors.

DAVID WILSON, D.Sc., of Carbeth.

Chairmen of Committees.

1. Argyll Naval Fund . . .	Captain G. D. CLAYHILLS HENDERSON.
2. Finance, Chambers, and Law . . .	Sir JAMES H. GIBSON-CRAIG, Bart.
3. Publications . . .	Very Rev. JOHN GILLESPIE, LL.D.
4. Shows . . .	ALEX. M. GORDON of Newton.
5. Science . . .	DAVID WILSON, D.Sc., of Carbeth.
6. General Purposes . . .	Sir JAMES H. GIBSON-CRAIG, Bart.
7. Education . . .	Very Rev. JOHN GILLESPIE, LL.D.
8. Forestry . . .	Sir ARCHIBALD BUCHAN HEPBURN, Bart.

COMMITTEES FOR 1906-1907

1. ARGYLL NAVAL FUND.

Capt. G. D. CLAYHILLS HENDERSON of Invergowrie, R.N., Dundee, *Convener*.
 J. PATTEN MACDOUGALL, C.B., 39 Heriot Row, Edinburgh.
 JOHN MACLACHLAN of MacLachlan, 48 Castle Street, Edinburgh.
 Sir JOHN GILMOUR of Montrave, Bart., Leven.
 Sir KENNETH MACKENZIE of Gairloch, Bart., 10 Moray Place, Edinburgh.

2. FINANCE, CHAMBERS, AND LAW.

Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., *Convener*.
 Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.
 ALEXANDER CROSS of Knockdon, 19 Hope Street, Glasgow.
 JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
 W. S. FERGUSON, Pictstonhill, Perth.
 JAS. I. DAVIDSON, Saughton Mains, Corstorphine.
 DAVID WILSON, D.Sc., of Carbeth, Killearn.
 Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk.
 JAMES STENHOUSE, Turnhouse, Cramond Bridge.
 A. M. GORDON of Newton, Inch, Aberdeenshire, Hon. Secretary, *ex officio*.
 WILLIAM HOME COOK, C.A., Auditor, *ex officio*.

3. PUBLICATIONS.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.,
Convener.
 JOHN SPEIR, Newton Farm, Newton, Glasgow.
 DAVID WILSON, D.Sc., of Carbeth, Killearn.
 R. SHIERA GIBB, Boon, Lander.
 Sir ROBERT D. MONCREIFFE of Moncreiffe, Bart., Bridge of Earn.
 JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
 JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.

4. SHOWS.

ALEX. M. GORDON of Newton, Inch, Aberdeenshire, *Convener*.
 Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.
Vice-Convener.
 Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., Currie.
 JOHN CRAN, Kirkton, Bunchrew, Inverness.
 JOHN MARR, Upper Mill, Tarves.
 JONATHAN MIDDLETON, Glastullich, Nigg, Ross-shire.
 W. S. FERGUSON, Pictstonhill, Perth.
 ALEX. CROSS of Knockdon, 19 Hope Street, Glasgow.
 J. D. FLETCHER of Rosehaugh, Avoch, R.S.O., Ross-shire.
 G. M. CAMERON, Balnakyle, Munlochy.

JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.
 WILLIAM DUTHIE, Tarves, Aberdeenshire.
 ROBERT F. DUDGEON of Cargen, Dumfries.
 JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
 JOHN M'CAIG, Challock, Leswalt.
 Sir ROBERT D. MONCREIFFE of Moncreiffe, Bart., Bridge of Earn.
 JOHN MURRAY, Munnieston, Kippen Station, Stirling.
 WILLIAM TAYLOR, Park Mains, Renfrew.
 F. W. CHRISTIE, Dairsie Mains, Dairsie, R.S.O.
 A. H. ANDERSON, Kippendavie, Dunblane.
 CHARLES HOWATSON of Glenbuck, Glenbuck, N.B.
 JAMES STENHOUSE, Turnhouse, Cramond Bridge.
 E. DOUGLAS PATON, Broomhill, Melrose.
 J. ERNEST KERR, Harviestoun Castle, Dollar.
 THOMAS GORDON DUFF of Drummuir, Keith.
 JOHN MACPHERSON-GRANT, yr. of Ballindalloch, Old Milton, Kingussie.
 W. T. MALCOLM, Dunmoie, Larbert.
 The MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle.
 DAVID FERRIE, Parbroath, Cupar-Fife.
 Major F. J. CARBUTHER of Dormont, Lockerbie.
 W. S. PARK, Hatton, Bishopton.
 Captain THOMAS HOPE of Bridge Castle, Westfield.

5. SCIENCE.

DAVID WILSON, D.Sc., of Carbeth, Killearn, *Convener*.
 JONATHAN MIDDLETON, Glastullich, Nigg, Ross-shire, *Vice-Convener*.
 R. SHIRRA GIBB, Boon, Lauder.
 W. S. FERGUSON, Pictstonhill, Perth.
 JOHN SPIER, Newton Farm, Newton, Glasgow.
 ANDREW HUTCHESON, Beechwood, Perth.
 ALEX. CROSS of Knockdon, 19 Hope Street, Glasgow.
 Very Rev. JOHN GILLESPIE, LL.D., Monswald Manse, Ruthwell, R.S.O.
 JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.
 JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
 JOHN M'CAIG, Challock, Leswalt.
 C. H. SCOTT PLUMMER of Sunderland Hall, Selkirk.
 JAMES STENHOUSE, Turnhouse, Cramond Bridge.
 THOMAS GORDON DUFF of Drummuir, Keith.
 J. M. AITKEN, Norwood, Lockerbie.
 Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk.
 The MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle.
 HARRY HOPE Barneyhill, Dunbar.
 DAVID FERRIE, PARBROATH, Cupar-Fife.
 JAMES HENDRICK, Chemist, *ex officio*.
 A. N. M'ALPINE, Botanist, *ex officio*.

6. GENERAL PURPOSES.

Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., Currie, *Convener*.
 G. R. GLENDINNING, Hatton Mains, Kirknewton.
 Very Rev. JOHN GILLESPIE, LL.D., Monswald Manse, Ruthwell, R.S.O.
 JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
 Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk.
 JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.
 ALEX. M. GORDON of Newton, Inch, *ex officio*.
 JAMES I. DAVIDSON, Saughton Mains, Corstorphine.
 ANDREW HUTCHESON, Beechwood, Perth.
 DAVID WILSON, D.Sc., of Carbeth, *ex officio*.

7. EDUCATION.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.,
Convener.

DAVID WILSON, D.Sc., of Carbeth, Killearn.

ALEXANDER CROSS of Knockdon, 19 Hope Street, Glasgow.

JOHN SPEIR, Newton Farm, Newton, Glasgow.

R. SHIRRA GIBB, Boon, Lauder.

The SECRETARY.

8. FORESTRY.

Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk, *Convener.*

The MASTER OF POLWARTH, Humber House, Upper Keith.

A. M. GORDON of Newton, Inch, Aberdeenshire.

R. C. MUNRO FERGUSON of Raith, M.P., Kirkcaldy.

JOHN METHVEN, 15 Princes Street, Edinburgh.

Colonel F. BAILEY, 7 Drummond Place, Edinburgh.

DAVID KEIR, Ladywell, Dunkeld.

JOHN MICHIE, Balmoral, Ballater.

THOMAS GORDON DUFF of Drummur, Keith.

The MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle.

9. OFFICE-BEARERS.

ALEX. M. GORDON of Newton, Inch, Aberdeenshire.

Captain THOMAS HOPE of Bridge Castle, Westfield.

Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., Currie.

E. DOUGLAS PATON, Broomhill, Melrose.

DAVID WILSON, D.Sc., of Carbeth, Killearn.

ALEXANDER CROSS of Knockdon, 19 Hope Street, Glasgow.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell.

W. S. FERGUSON, Pictstonhill, Perth.

C. M. CAMERON, Balnakyle, Munlochy.

JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.

WILLIAM DUTHIE, Tarves.

JAMES STENHOUSE, Turnhouse, Cramond Bridge.

W. M. LEADBETTER, Legerwood, Earlstoun.

A. H. ANDERSON, Kippendavie, Dunblane.

JOHN M'CAIG, Challock, Leswalt, Stranraer.

The President, Vice-Presidents, the Treasurer, Honorary Secretary, and Chairman of Directors are members *ex officio* of all Committees.

 REPRESENTATIVES ON OTHER BODIES.

National Agricultural Examination Board.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.

ALEX. CROSS of Knockdon, 19 Hope Street, Glasgow.

JOHN SPEIR, Newton Farm, Newton, Glasgow.

DAVID WILSON, D.Sc., of Carbeth, Killearn.

R. SHIRRA GIBB, Boon, Lauder.

JAMES MACDONALD, *Secretary.*

West of Scotland Agricultural College.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.
 JOHN M. MARTIN, Murieston House, Mid-Caldar.

Edinburgh and East of Scotland College of Agriculture.

R. SHIRRA GIBB, Boon, Lauder.
 JAMES MACDONALD, *Secretary*.

Aberdeen and North of Scotland College of Agriculture.

T. GORDON DUFF of Drumnair, Keith.
 WILLIAM DUTHIE, Tarves.

Royal (Dick) Veterinary College.

JOHN M. MALTIN, Murieston House, Midcalder.

MEETINGS.

General Meetings.—By the Charter the Society must hold two General Meetings each year, and, under ordinary circumstances, they are held in the months of January and June, in the Society's Hall, 3 George IV. Bridge, for the election of Members and other business. Twenty a quorum.

By a resolution of the General Meeting on 15th January 1879, a General Meeting of Members is held in the Showyard on the occasion of the Annual Show. This year it will be held at Edinburgh, on Tuesday, 9th July, at an hour to be announced in the programme of the Show.

With reference to motions at General Meetings, Bye-Law No. 10 provides—"That at General Meetings of the Society no motion or proposal (except of mere form or courtesy) shall be submitted or entertained for immediate decision unless notice thereof has been given a week previously to the Board of Directors, without prejudice, however, to the competency of making such motion or proposal to the effect of its being remitted to the Directors for consideration, and thereafter being disposed of at a future General Meeting."

General Show at Edinburgh—9th, 10th, 11th, and 12th July.—Entries close for Implements, 6th May; Stock, Poultry, and Dairy Produce, 31st May.

Directors' Meetings.—The Board of Directors meet (except when otherwise arranged) on the first Wednesday of each month from November till June inclusive, at half-past one o'clock P.M., and occasionally as business may require, on a requisition by three Directors to the Secretary, or on intimation by him. Seven a quorum.

Committee Meetings.—Meetings of the various Committees are held as required.

Nomination of Directors.—Meetings of Members, for the purpose of nominating Directors to represent the Show Districts on the Board for the year 1908-1909, will be held at the places and on the days after mentioned :—

Year 1908-1909.

- | | |
|---|------------------------------------|
| 1. Edinburgh, 3 George IV. Bridge, | . Wed., 12th Feb. 1908, at 2. |
| 2. Glasgow, North British Railway Hotel | Wed., 19th Feb. 1908, at 1. |
| 3. Stirling, Golden Lion Hotel, | . Thur., 20th Feb. 1908, at 1.30. |
| 4. Perth, Salutation Hotel, | . Fri., 21st Feb. 1908, at 2. |
| 5. Kelso, Cross Keys Hotel, | . Fri., 28th Feb. 1908, at 12.30. |
| 6. Aberdeen, Imperial Hotel, | . Fri., 6th Mar. 1908, at 2. |
| 7. Inverness, Station Hotel, | . Tues., 10th Mar. 1908, at 12.30. |
| 8. Dumfries, King's Arms Hotel, | . Wed., 18th Mar. 1908, at 1. |

The nomination of Tenant-Farmers or other Members paying the lower subscription must be made in the 1st, 2nd, 4th, and 5th Districts; and the nomination of Proprietor or other Members paying the higher subscription, in the 3rd, 6th, 7th, and 8th Districts.

EXAMINATIONS.

Agriculture.—The Examination for 1907 for the National Diploma in Agriculture will be held at the University, Leeds, on Monday, 6th May, and following days. Entries close on 2nd April.

Forestry.—The Examination for the Society's Certificates in Forestry will be held at 3 George IV. Bridge, Edinburgh, on 9th, 10th, and 11th April 1907. Entries close on 8th March.

Dairy.—The Examination for 1907 for the National Diploma in Dairying will be held at the Dairy School, Kilmarnock, on Monday, 30th September, and following days. Entries close on 31st August.

AGRICULTURAL EDUCATION

By a Supplementary Charter under the Great Seal, granted in 1856, the Society is empowered to grant Diplomas.

From 1858 to 1899 the Society held an annual Examination for Certificate and Diploma in Agriculture. In 1872 the Free Life Membership of the Society was granted to winners of the Diploma. In 1884 permission was given to holders of the Diploma to append the letters F.H.A.S. to their names.

In 1898 it was resolved by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland to discontinue the independent Examinations in Agriculture held by the two Societies, and to institute in their stead a Joint-Examination for a NATIONAL DIPLOMA IN AGRICULTURE (N.D.A.) This Examination is now conducted under the management of the "National Agricultural Examination Board" appointed by the two Societies. In the year 1903, on the invitation of the two Societies, the Board of Agriculture and the Scotch Education Department agreed to appoint a representative from each to act on the Examination Board. Professor Middleton represents the former and Mr John Struthers, C.B., the latter body.

REGULATIONS AND SYLLABUS OF THE EXAMINATION FOR THE NATIONAL DIPLOMA IN THE SCIENCE AND PRACTICE OF AGRICULTURE.

REGULATIONS.

1. The Societies may hold conjointly, under the management of the National Agricultural Examination Board appointed by them, an annual Examination in the Science and Practice of Agriculture, at a convenient centre.

2. Candidates who pass the Examination will receive the National Diploma in Agriculture—the Diploma to be distinguished shortly by the letters "N.D.A."

3. The Examination will be conducted by means of written papers and oral Examinations.

4. The Examination must be taken in Two Parts as follows :—

First Part.

1. Agricultural Botany.
2. Mensuration and Land Surveying
(or *Agricultural Book-keeping*).
3. General Chemistry.
4. Geology.
5. Agricultural Zoology.

Second Part.

6. Practical Agriculture.
7. Agricultural Book-keeping
(or *Mensuration and Land Surveying*).
8. Agricultural Chemistry.
9. Agricultural Engineering.
10. Veterinary Science.

Candidates have the option of taking Mensuration and Land Surveying in the First Part and Agricultural Book-keeping in the Second Part, or of taking Agricultural Book-keeping in the First Part and Mensuration and Land Surveying in the Second Part. The choice must be declared on the Entry Form at the time of Entry for the First Part.

5. The maximum number of marks obtainable and the minimum number of marks in each subject qualifying for the Diploma will be as follows :—

First Part—

SUBJECT.	Max. No. of Marks.	Pass Marks for Diploma.
1. Agricultural Botany	200	120
2. Mensuration and Land Surveying	200	120
3. General Chemistry	200	120
4. Geology	100	50
5. Agricultural Zoology	100	50

Second Part—

6. Practical Agriculture	500	300
7. Agricultural Book-keeping	200	120
8. Agricultural Chemistry	200	120
9. Agricultural Engineering	200	120
10. Veterinary Science	100	50

6. A Candidate who obtains not less than three-fourths (1500) of the aggregate maximum marks (2000) in the entire Examination will receive the Diploma with Honours, provided that he obtains not less than three-fourths (375) of the maximum marks (500) in the subject of Practical Agriculture.

7. A Candidate will not be entitled to take both Parts of the Examination at one time. A year at least must elapse between the passing of the First Part and sitting for the Second Part; and the Second Part must, except with the special permission of the Board, be taken within two years of the passing of the First Part.

8. A non-returnable fee of £1 will be required from each Candidate for each Part of the Examination.

9. A Candidate who fails to obtain Pass marks in any of the subjects in Part I. must take the entire Part again. A Candidate who fails to obtain Pass marks in more than one of the subjects in Part II. must take the entire Part again. A Candidate who fails in one subject only in Part II. may come up again for that subject alone.

10. Holders of the First Class Certificate of the Royal Agricultural Society of England and of the Diploma of the Highland and Agricultural Society of Scotland will not be eligible for this Examination.

11. The Board reserve the right to postpone, abandon, or in any way, or at any time, modify an Examination, and also to decline at any stage to admit any particular Candidate to the Examination.

The Eighth Examination for the National Diploma in Agriculture will take place in the Great Hall of the Leeds University, on Monday, May 6, 1907, and following days. Forms of application for permission to sit at the Examination may be obtained in due course from the Secretary, Royal Agricultural Society of England, 16 Bedford Square, London, W.C., or from the Secretary, Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh, and must be returned duly filled up not later than Tuesday, April 2, 1907, when the Entries will close.

BY ORDER,

ERNEST H. GODFREY,
Secretary to the Board.

December 1906.

SYLLABUS OF SUBJECTS OF EXAMINATION.

FIRST PART.

I.—AGRICULTURAL BOTANY.

1. *Morphology*.—The structure of plants. The principles of classification. The Natural Orders (Phanerogams and Cryptogams), dealing specially with those of importance to the Agriculturist.

2. *Physiology*.—The life of the plant. Organs and their functions—nutritive and reproductive.

3. *Pathology*.—Diseases of plants, and their causes. Parasites—Phanerogams, Fungi, Bacteria. Prevention and cure.

4. *Cultivation*.—Conditions in plant life favourable to (a) the improvements of cultivated plants, and (b) the destruction of weeds. New varieties of plants. Pastures. Pruning.

N.B.—Candidates will be expected to give evidence of practical acquaintance with the subject. They will be required to identify and briefly describe the commoner fungi, plants usually met with on a farm, the chief farm seeds, and sections illustrative of the main structural features of flowering plants.

II.—MENSURATION AND LAND SURVEYING.

1. Ordinary rules of superficial and solid mensuration. Volume of a prismoid. Applications to practical questions. Estimation of weights of bodies whose dimensions and specific gravity are known.

2. Land surveying by chain. Plotting from field-book, and determination of areas surveyed. The simpler "field problems."

3. The use and adjustment of instruments employed in Surveying and Levelling.

4. Levelling and plotting from field-book.

5. A sufficient knowledge of Trigonometrical Surveying for the determination of heights and distances by Theodolite; as essential to this, solution of plane triangles by the aid of Logarithmic Tables.

6. A knowledge of the various classes of maps published by the Ordnance Survey Department and their Scales.

N.B.—Each candidate should have with him at the Examination a pair of compasses, scales of equal parts, including a scale of one chain to an inch, and the scale fitting the Ordnance map, $\frac{1}{2500}$, or 25·344 inches to the mile, a small protractor, a set square, and a straight-edge about 18 inches in length.

III.—GENERAL CHEMISTRY.

CHEMICAL PHYSICS.

Matter and Energy—Pure and mixed matter—Methods of separating Mixtures—Simple and Compound substances—Kinetic and Potential energy—Transformation and Conservation of Energy.

The solid, liquid, and gaseous states of matter and the phenomena accompanying change of state.

Heat—the measurement of Heat—thermometers—calorimeter—the effects of Heat and pressure on Gases.

Gaseous diffusion—vapour tension—the barometer.

Mass and Weight—the balance—Specific Gravity—Density—Hydrometry.

Metric system of weights and measures.

INORGANIC CHEMISTRY.

The chief elements found in the commonest forms of matter.

The atomic theory—molecular condition of matter—atomic and molecular weights.

Chemical combination—symbolic notation—equations.

Hydrogen—its compounds with chlorine, oxygen, nitrogen, and carbon.

Oxygen—oxidation—combustion—respiration.

Water—natural waters—their impurities and purification.

Acids—bases—salts.

Carbon—its compounds with oxygen, sulphur, and nitrogen.

Nitrogen—nitric acid—nitrates—and nitrites.

Sulphur—sulphides—sulphuric and sulphurous acids—sulphates.

Chlorine—Bromine—Iodine.

Chlorides—Chlorates—chloride of lime, bleaching.

Phosphorus—phosphates—superphosphate.

Silica—silicates—arsenic.

Metals—ores—general metallurgic processes.

Alkalies—Chief Alkaline salts—Alkalimetry—Acidimetry.

Lime—the chief Lime compounds.

Magnesium, Zinc, Iron, Lead, Copper, Mercury, Silver, and their technically important Salts.

ORGANIC CHEMISTRY.

Distillation of Coal and Wood—Nature of chief products.

Hydrocarbons—Paraffins—Olefines and their chief oxidation products—Alcohols, Aldehydes, Acids.

Fermentations—Alcoholic, acetic, lactic, butyric.

Carbohydrates—sugars, starch, cellulose, dextrine, gums.

Fats—glycerol—saponification.

Benzene—Phenol.

Tartaric, Citric, and other common vegetable acids.

Amines and Amides—urea.

Proteids, Peptones, Gelatine, &c.

N.B.—*In this section exact knowledge of general principles and typical compounds is expected, rather than diffuse information. Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.*

IV.—GEOLOGY.

1. Chief minerals entering into the composition of rocks. Origin and composition of aqueous and igneous rocks. General principles of the classification of rocks. Leading divisions of the stratified rocks, and their geographical distribution in the British Islands.

2. Stratification, cleavage, and faulting of rocks.

3. Influence of the geological structure of a country on the configuration of the land and the composition of the soil. Relation of strata to water-supply and drainage. Origin of springs.

4. The various mineral manures, their sources, characters, and mode of occurrence.

5. Different kinds of building-stones and road materials. Distribution of the various economical substances.

N.B.—*Candidates will be required to name and describe common rocks, minerals, and fossils, and to show some knowledge of geological maps and sections.*

V.—AGRICULTURAL ZOOLOGY.¹

1. The part played by common animals in helping or hindering agricultural operations, as illustrated by moles and voles, insectivorous and other birds, snails and slugs, useful and injurious insects, arachnids and myriopoda, earthworms, &c.

2. *General Structure of Insects*, especially the external characters.

3. *Life-history of Insects*.—Various forms of larvæ. Economic importance of different stages.

4. *Classification of Insects*.—The general characters of the following Natural Orders: Coleoptera, Lepidoptera, Hymenoptera, Diptera, Hemiptera, Orthoptera, Neuroptera.

5. *Acarina* injurious to Food Crops and Live Stock.

6. *Parasitic Worms*.—Flukes, Tapeworms, and Threadworms.

7. *Preventive and Remedial measures* in regard to insects, acarines, and worm parasites—e.g., farm practice in relation to the discouragement of Insect Attack. Encouragement of insect-eating birds and mammals. Artificial remedies. Insecticides. Treatment for Parasites.

N.B.—*Practical acquaintance with common animals, especially insects and worm parasites, will be expected. Where the Candidate is not acquainted with the scientific name of an animal, the generally received English name will be accepted.*

SECOND PART.

VI.—PRACTICAL AGRICULTURE.

1. *Soil*.—Classification of soils—characters and composition—suitability for cultivation.

2. *Improvement of Soil*.—Drainage, Irrigation, and Warping. The application of lime—marl—clay—ashes, &c.

3. *Rotations*.—The principles of rotations—rotations suitable for different soils and climates—systems of farming.

4. *Manures*.—The properties of manures—general and special—amounts used per acre—period and mode of application—treatment and disposal of sewage.

5. *Food-stuffs*.—The properties of feeding substances—their suitability

for different classes of farm stock—considerations affecting their use—rations for different classes of stock.

6. *Crops*.—Farm crops (cereals, agricultural grasses and clovers, forage plants and roots). How they grow—their cultivation, including cleaning, harvesting, and storage—diseases—insect injuries and remedies.

7. *Weeds and Parasitic Plants*.—Best methods of eradication.

8. *Pests of the Farm*.—Injuries to crops and live stock of the farm due to mammals, birds, and insects, with their prevention and remedies.

9. *Weather*.—Meteorology, or the effect of climate on farming conditions.

10. *Live Stock*.—The breeding, rearing, feeding, and general treatment of farm stock—the different breeds of horses, cattle, sheep, pigs, and poultry—their characteristics—the districts where they are generally met with.

11. *Milk*.—The production and treatment of milk—the manufacture of cheese, butter, &c.—the utilisation of bye-products.

12. *Machinery*.—The uses and prices of the machines and implements used in farming in different parts of Great Britain.

13. *Buildings*.—Buildings required on different classes of farms in various districts.

14. *Farming Capital*.—Calculations of the cost of stocking and working arable, stock, and dairy farms. Farm valuations. Rent, taxes, and cost of labour.

N.B.—*It is essential that a Candidate know his subject practically, and that he satisfy the Examiner of his familiarity with farm routine. Candidates will be expected to illustrate their answers when necessary by intelligible sketches or diagrams.*

VII.—AGRICULTURAL BOOK-KEEPING.

1. *Agricultural Book-keeping*.—Description of books to be kept, with examples.

2. *Valuation of stock and effects*.

3. *Profit and Loss, and Balance-Sheet*.

VIII.—AGRICULTURAL CHEMISTRY.

1. *Soil*.—The origin, formation, and classification of soils. The constituents of soils. The supply of plant-food by the soil. The chemical and physical properties of soils of different kinds. The adaptation of soils to particular crops. The relations of air and water to soils. Nitrification and the biology of the soil. The chemical and physical effects of tillage operations and drainage. The improvement of soils. Causes of infertility. Mechanical and chemical analysis of soils.

2. *Plant-life*.—The constituents of plants. The relations of atmosphere, rainfall, heat, and light to vegetation. The sources of plant-food.

3. *Manures*.—The supply of plant-food by manure. The improvement of the soil by manuring. The classification of manures as regards their composition, nature, and use. The manures in general use upon the farm. Farmyard manure and other natural manures. Green-manuring. Liming, marling, claying. Artificial manures, their origin and manufacture. The changes which manures undergo in the soil. The influence of drainage. The application of manures. The analysis of manures. The adulteration of manures.

4. *Crops*.—The composition of the principal farm crops. Characteristics of particular kinds of crops. The influence of climate and season. The manuring of particular crops. The changes that take place in crops during the various stages of their growth. Rotation of crops.

5. *Foods*.—The constituents of foods, and their functions. The nutritive

value and digestibility of foods. The chemical composition and use of the principal feeding-stuffs employed on the farm, and the sources of their supply. The main facts regarding respiration and digestion. The relation of foods to the production of work, meat, milk, and manure. The adaptation of foods to special requirements. The residual manurial value of foods, and the circumstances affecting it. The estimation of un-exhausted fertility. Analysis and adulteration of foods.

6. *Water*.—Rain-water. Hard and soft waters. Drinking waters. Irrigation and sewage.

7. *Dairying*.—The composition of milk, and the conditions which influence its quality and supply. Cream and cream-separation. Butter and butter-making. Cheese and cheese-making. The influence of ferments on milk and milk products. The preservation of milk. Milk-testing.

N.B.—Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.

IX.—AGRICULTURAL ENGINEERING.

1. *Heat*.—Specific heat; latent heat; the unit of heat. Total heat of water; as ice, water, and steam. Conduction, convection, and radiation of heat. Mechanical equivalent of heat. Principle of combustion. Quantity of heat generated by combustion. Modes of transforming heat of combustion into power, as in the steam-engine, and in gas and oil engines.

2. *Air*.—Properties of air; elasticity, density. Barometer. Moisture. Movement. Winds. Windmills.

3. *Water*.—Composition, impurities, weight. Height of column to balance atmosphere. Flow of water. Friction of water in pipes and channels. Usual speed of flow. Power derived from falls of water. Water-wheels; turbines; water-pressure engines; pumps. Potable water. Sources of supply. Means of purification. Storage.

4. *Mechanics*.—Centre of gravity; stability of structures. The lever; toothed wheels; pulleys and ropes; wrapping connectors; winches; differential pulleys. Laws of motion. Strength of materials, tensile, compressive, torsional, and transverse; elastic limit; ultimate strength. Horse-power; animal and human power. Friction of surfaces and axles; lubrication.

5. *Steam-engine*.—Construction of an ordinary portable-engine boiler, and of a Cornish boiler, and its setting. Fittings of a boiler. Construction of the stationary and portable steam-engine. Single cylinder. Double cylinder. Compound. Steam and fuel consumed per horse-power.

6. *Gas and Petroleum Engines*.—Principle of action. Sources of loss. Fuel and water required per horse-power.

7. *Electrical Generators, Motors, and Conductors*.—Principles of action. Losses in electrical machinery. Efficiency. Detection of faults. Use of fuses and cut-outs. Horse-power of motors. Ohm's law.

8. *Construction of Agricultural Implements*.—The mode of action and the general principles involved in the construction of farm implements. The adjustments of implements for different descriptions of work. Lubrication. Working or wearing parts.

9. *Cultivating Implements worked by Steam Power*.

10. *Horse-cultivating Implements*.—Ploughs. Cultivators or Grubbers. Harrows. Rollers. Scrubbers, &c.

11. *Sowing Implements*.—Drills. Manure and water drills. Broadcast barrows. Broadcasters. Manure distributors. Potato planters, &c.

12. *Hoeing Implements*.—Horse-hoes. Scufflers.

13. *Securing of Crops*.—Reaping machines. Mowing machines. Hay-makers. Horse-rakes. Elevators. Silage appliances. Potato raisers, &c.

14. *Carriages*.—Carts. Waggon. Motor Waggon. Sleighs. Rick-lifters, &c.

15. *Preparing Crops for Market*.—Threshing machines. Winnowing machines. Corn screens. Hummellers. Hay and straw presses, &c.

16. *Preparing Foods*.—Mills. Chaff-cutters. Pulpers. Turnip-cutters. Cake-breakers. Cooking apparatus.

17. *Dairy Appliances*.—Cream separators. Churns. Butter-workers. Cheese tubs. Curd mills. Cheese presses. Setting-pans. Refrigerators, &c.

18. *Land Improvement*.—Drainage instruments. Limekilns. Arrangements of shafting, pulleys, clutches, &c., for farm machinery at home-steads. Building construction and material.

N.B.—*Marks will be given for neatness and accuracy of Drawing.*

X—VETERINARY SCIENCE.

1. Anatomy and Physiology, including the comparative anatomy of the bones of the animals of the farm, and the structure and functions of the different organs and tissues of the horse, ox, sheep, and pig.

2. The digestive processes and principles of nutrition in the above animals.

3. A general knowledge of the blood and its circulation, and the processes of respiration, secretion, and excretion.

4. The physiology of reproduction, and its bearings on healthy breeding.

5. The period of gestation in the mare, cow, ewe, and sow, and the special management of these animals prior to, at the time of, and after parturition.

6. The management of farm stock in health and disease.

The following won the Diploma in 1906 :—

Diploma with Honours.

ERNEST HARRISON, Harris Institute, Preston (*Gold Medal*)

JOHN FISHER, Harris Institute, Preston.

JAMES WYLLIE, Glasgow and West of Scotland Agricultural College.

JAMES RYDING BOND, Harris Institute, Preston.

THOMAS RIMMER, Harris Institute, Preston.

PERCY SNOWDON, Leeds University.

Diploma.

GWILYM WILLIAMS, University College of Wales, Aberystwyth.

JAMES JOHNSTON, Glasgow and West of Scotland Agricultural College.

OLIVER CYRIL SPENCER WATSON, Harper-Adams Agricultural College, Newport, Salop.

FRANK ATKINSON CAPSTICK, Harper-Adams Agricultural College, Newport, Salop.

ROBERT WILLIAM STANFORTH, Harris Institute, Preston.

WILLIAM STEVENSON, Glasgow and West of Scotland Agricultural College.

GEORGE HENRY GARRARD, South-Eastern Agricultural College, Wye, Kent.

FRANCIS ALEXANDER THOMSON, Marischal College, Aberdeen.

FRANCIS STRACHAN MARR, Aberdeen University.

{ GEORGE RAMSAY BLAND, Harris Institute, Preston.

{ TOM CLARK, Harper-Adams Agricultural College, Newport, Salop.

JOSEPH STOKER, Leeds University.

JOHN FREDERICK HARRISON, South-Eastern Agricultural College, Wye, Kent.

ROBERT STANLEY VINSON, South-Eastern Agricultural College, Wye, Kent.

FREDERICK JAMES PODMORE, Harris Institute, Preston.

JAMES ELGEY, Leeds University.

ALFRED HAROLD HEATH, Harper-Adams Agricultural College, Newport, Salop.

SYDNEY ROTHWELL, South-Eastern Agricultural College, Wye, Kent.

WILLIAM SUDGEN, Harris Institute, Preston.

JOHN WILSON, Harris Institute, Preston.

ARTHUR EDGAR BRUCE FIELDING, Leeds University.

ANNIE GLADYS ANYAN, Harris Institute, Preston.

EXAMINATION PAPERS OF PAST YEARS.

Copies of the Papers set at the six Annual Examinations for the National Diploma in the Science and Practice of Agriculture held from 1900 to 1905 may, as far as available, be had on application. Price 6d. per set.

VETERINARY DEPARTMENT

The Society established a Veterinary Department in 1823, but by an arrangement made with the Royal College of Veterinary Surgeons, the Society's examination ceased in 1881. Holders of the Society's Veterinary Certificate are entitled to become Members of the Royal College of Veterinary Surgeons on payment of certain fees, without being required to undergo any further examination. The number of Students who passed for the Society's Certificate is 1183.

The Society votes annually eleven silver medals for Class Competition to each of the two Veterinary Colleges in Scotland, the one in Edinburgh and the other in Glasgow.

FORESTRY DEPARTMENT

THE SOCIETY GRANTS FIRST AND SECOND CLASS CERTIFICATES IN FORESTRY.

1. An Examination will be held each year about the month of April.
2. Next Examination will be held on 9th, 10th, and 11th April 1907. Entries close on 8th March.

3. Candidates must possess—1. A thorough acquaintance with the theory and practice of Forestry. 2. A general knowledge of the following branches of study, so far as these apply to Forestry: (a) The Elements of Botany and Forest Zoology; (b) The Elements of Physics, Chemistry, and Meteorology; (c) Forest Engineering, including Land and Timber Measuring and Surveying; Mechanics and Construction, as applied to fencing, draining, bridging, road-making, and saw-mills; and Implements of Forestry; (d) Book-keeping and Accounts.

4. The examinations are open to candidates of any age, may be both written and oral, and will include such practical tests as may from time to time be decided to apply.

5. The maximum number of marks for each subject is 100; Pass marks for First-Class Certificate—Forestry, 75; all other subjects, 60. Pass marks for Second-Class Certificate—Forestry, 60; all other subjects, 50.

6. A Candidate who obtains Pass marks in certain subjects, but fails in others, may come up for these other subjects alone, it being understood that without the special permission of the Society no Candidate will be eligible to enter for more than two subsequent examinations.

7. A Candidate who has obtained the Second-Class Certificate may enter again for the First-Class Certificate.

The list of students who obtained certificates prior to 1899 appears in the 'Transactions,' Fifth Series, vol. xi. (1899).

The following have since obtained First-Class Certificates:—

ERIC ARTHUR NOBBS, Department of Agriculture, Cape Town,	1899
GEORGE POTTS, Grey College, Bloemfontein, Orange River Colony,	1899
DUNCAN S. RABAGLIATI, 1 St Paul's Road, Bradford,	1901
FRANK SCOTT, Dumfries House Mains, Cumnock,	1903
WILLIAM T. STOCKLEY, Rose Villa, Garswood, near Wigan,	1906

The following have since obtained Second-Class Certificates:—

WILLIAM BRUCE, B.Sc., East of Scotland College of Agriculture, Edinburgh,	1901
RAJAPPIER SWAMINATHAN, 56 Jesus Lane, Cambridge,	1901
THOMAS USHER, Courthill, Hawick,	1901
ALEXANDER MITCHELL, Braidwood, Gorebridge,	1903
ALLAN CARRUTH, Lawmarnock, Kilbarchan,	1905
ALEX. M. LUMSDEN, Newburn Schoolhouse, Upper Largo,	1905
ROBERT M. WILSON, Laws Cottage, Duns,	1905
THOMAS CAMPBELL, Greystoke, Penrith,	1906
DONALD FERGUSON, Quarry Lane, Lennoxtown,	1906

SYLLABUS OF EXAMINATION

I.—SCIENCE OF FORESTRY AND PRACTICAL MANAGEMENT OF WOODS.

I. *Principles of Scientific Forestry*.—1. Effects of heat, light, moisture, and air-currents on forest vegetation. 2. Effects of depth, porosity, moisture, and chemical composition of the soil on forest vegetation. 3. Effects of forest vegetation on the soil and air. 4. Rate and extent of development, longevity, and reproductive power of trees. 5. Pure and mixed woods. 6. Systems of silviculture.

II. *Practical Management of Woods*.—7. Draining and irrigation. 8. Choice of species for various situations. 9. Seed and sowing, including nurseries. 10. Planting. 11. Natural regeneration by seed, shoots, and suckers. 12. Formation of mixed woods. 13. Tending of young woods. 14. Pruning. 15. Thinning. 16. Silvicultural characteristics of the principal trees.

III. *Injuries by Storms and Fires*.—17. Storms. 18. Fires.

IV. *Timber*.—19. Its technical properties. 20. Its defects. 21. Recognition of different kinds of timber. 22. Processes for increasing its durability.

V. *Utilisation of Produce*.—23. Uses of wood and other produce. 24. Felling. 25. Conversion. 26. Seasoning. 27. Transport. 28. Sales. 29. Harvesting of bark.

VI. *Forest Organisation*.—30. General ideas regarding a regulated system of forest management.

II.—FOREST BOTANY AND FOREST ZOOLOGY.

(a) FOREST BOTANY.

The fundamental facts of morphology, physiology, and classification of plants. The structure and function of the plant-cell and the plant-tissues. Their primary distribution. The secondary changes they exhibit in consequence of perennation.

The structure and function of the root and shoot in flowering-plants. Buds, their forms and uses. The flower. The fruit. The seed.

The structure and function of vegetative and reproductive organs of fungi.

Relationship of plants to air, soil, and water. Effect of light, heat, and mechanical agencies upon plants. Nutrition. The nature and elements of the food of plants. Sources of plant-food. The absorption, elaboration, transference, and storage of food. Respiration and transpiration. Parasites and saprophytes. Symbiosis.

Growth of plants in length and thickness. Correlation of growth, pruning. Germination of seeds. Formation of wood and bark. Healing of wounds.

Diseases of plants due to faulty nutrition and unfavourable circumstances of growth. Diseases due to attacks of fungi.

Natural reproduction and propagation by seeds and by buds. Fertilisation of flowers. Hybridisation. Artificial propagation by budding, grafting, layering, and cutting.

The characters of the large groups and classes of the vegetable kingdom. The characters of the families of plants which include the chief timber trees. The botanical characteristics of the principal British forest-trees (including the structural features of their wood). The weeds of the forest and their significance.

(b) FOREST ZOOLOGY.

The group *Insecta*: its position in the animal kingdom. Structure, mode of reproduction, and metamorphosis of insects. The outlines of classification of the group. Conditions favourable to the numerical increase of insects. Natural checks to increase (e.g., birds, mammals, parasitic insects). The identification and life-history of the more important insects injurious to forest-trees and fruit-trees. The damage caused by these insect pests and their mode of attack. The damage caused by animals. Preventive and remedial measures.

III.—PHYSICS, CHEMISTRY, AND METEOROLOGY.

Physics.

Mass, weight, specific gravity, solid, liquid, and gaseous states of matter. Capillarity, osmose, vapour tension, suction pump, force pump, syphon, barometer, atmospheric pressure. Boyle's law. Levers and

pulleys. Heat, measurement of heat, specific heat; transference of heat by conduction, convection, and radiation. Boiling and freezing. Latent heat. The thermometer. The conservation and transformation of energy. Light—reflection, refraction, polarisation; the spectrum. The rudiments of electricity and magnetism.

Chemistry.

Elements. Oxygen, hydrogen, nitrogen;—their preparation, properties, and chief compounds. Acids, bases, salts. Combustion, oxidation, reduction. Sulphur, carbon, phosphorus; and their compounds, with oxygen and hydrogen. Metals—potassium, sodium, calcium, magnesium, aluminium, iron, copper, lead, mercury, and their chief compounds. Carbohydrates, marsh gas, olefiant gas, alcohol, acetic acid, oxalic acid. Distillation of wood and coal.

Meteorology.

The atmosphere, its composition and physical properties. Measurement of pressure and temperature. The barometer. Rain, hail, snow, fog, cloud, dew, the dew point, hoar frost. The weathering of rocks and soils. Gases injurious to vegetation.

IV.—FOREST ENGINEERING, INCLUDING LAND AND TIMBER MEASURING AND SURVEYING; MECHANICS AND CONSTRUCTION AS APPLIED TO FENCING, BRIDGING, ROAD-MAKING, AND SAW-MILLS.

1. The use of the level and measuring-chain. Measuring and mapping surface areas. 2. The measurement of solid bodies—as timber, stacked bark, fagots, &c., earthwork. 3. The different modes of fencing and enclosing plantations; their relative advantages, durability, cost of construction, and repairs. 4. The setting out and formation of roads for temporary or permanent use. 5. The construction of bridges over streams and gullies; of gates or other entrances. 6. The construction and working of estate saw-mills.

V.—BOOK-KEEPING AND ACCOUNTS.

1. Questions in Practice, Proportion, and Decimal Fractions. 2. Book-keeping—describe books to be kept; and best method of valuing timber. 3. Practical questions in Book-keeping will also be given.

EXAMINATION PAPERS, 1906

PRACTICAL FORESTRY.

1. It is intended to plant an area of land half a mile square, and to fence it with a strong larch post and wire fence. State the length of fence required, and give a full specification.

The herbage upon the area is short, the exposure and elevation moderate, the soil light generally and fairly deep. The plants are to

be set at 4 feet apart. State the varieties of the plants you would recommend, giving their size and age, also the method and cost of planting (per acre), as well as the total cost per acre, inclusive.

2. State what you know of the benefits, or otherwise, of pruning (a) hardwood or broad-leaved trees, and (b) Firs and true Pines. State also what advantage may be expected from the operation of thinning plantations. Assuming that the conditions of soils, situations, and exposures are average, at what age should the first thinning take place in (a) mixed plantations, (b) pure Pine or Fir, and (c) hardwoods or broad-leaved trees?

3. What are the conditions, such as soil, situation, and altitude, under which Larch thrive best? State the size and age of plants, mode of planting, and whether you would have the plantations pure or mixed. If the latter, state the kinds, and why.

4. A "mixed" plantation of thirty years of age, planted originally at 3 feet apart, has received no attention for twenty years, and consequently contains many dead trees. State briefly how you would deal with it (1) having regard to the future crop of timber, and (2) to maintain its efficiency as a game-preserve.

5. In dealing with land which had been previously planted, explain why you would give it a short rest, what preparatory treatment you would adopt during the "resting period," the age at which you would plant Scotch Fir, Larch, and Spruce together, with the methods of planting.

6. State briefly the methods of preparing the ground and of planting a young thorn hedge, together with the cost of the same, and the best methods of training for the first ten years.

(Two hours allowed.)

FOREST BOTANY AND FOREST ZOOLOGY.

(A) FOREST BOTANY.

(Four questions to be answered.)

1. Describe pollination, fertilisation, and the changes that follow fertilisation, in the Scots Pine.

2. Carefully describe the healing of a wound. How would you prune so that successful healing might follow?

3. Give the life-history, with notes on preventive and remedial measures, of *Trametes radiciperda*.

4. Compare as regards flowers and fruit the following trees: Birch, Oak, Elm, Acer, Lime, Hazel.

5. What is transpiration, what external conditions affect it, and what are its uses to the tree?

(B) FOREST ZOOLOGY.

(Two questions to be answered.)

1. Name three birds and three mammals that may be considered hurtful to trees, and say in what way they do harm.

2. Make a list of useful forest insects, and say why you consider each one named to be useful.

3. Describe and distinguish any two kinds of insect gall to be met with on the oak, and give the life-history of the maker.

(Two hours allowed.)

PHYSICS, CHEMISTRY, AND METEOROLOGY.

1. What is meant when we say that water has a heat capacity or specific heat over five times as great as that of sand? Could you describe any experiment in illustration of this difference in heat capacity?
2. What is nitric acid? How is it produced in nature? What takes place if nitric acid and chalk are mixed together?
3. What is the chief phosphate found in nature? Mention other phosphates commonly found in manures. Give some account of the solubility of each phosphate you mention.
4. How is acetic acid prepared from alcohol, and how is it obtained from wood?
5. What part does carbon dioxide play in the weathering of rocks? Why is carbon dioxide generally more plentiful in the air of the soil than in ordinary air?

(An hour and a half allowed.)

LAND MEASURING, &c.

1. Assume the figures to be in your note-book as you have measured them with an imperial link chain. Calculate the contents from the figures, and give the result in acres, roods, and poles. Fig I.
2. Assume that you have plotted the Plan ABCD. Describe how you have done so with scale and compasses.
3. Assume that Figure I. represents a Plantation, and that you cannot chain inside; describe how you would survey outside, so as to be able to plot this Plan by angles measured by the chain. Draw your chain lines and angles in pencil on the Plan, and describe how you proceed.
4. Assume you have measured and taken the levels for Figure II. Calculate the contents of ABC earth cutting with the horizontal section, and the cross section at C, and similar cross sections at A and B according to their depths, and state the contents in cubic yards.
5. State the gradients of AB and CD represented by the dotted lines.
6. Sketch a bridge for estate use, and of estate timber, across a water-course 30 feet wide at the surface of ground.
7. Sketch a roadway 20 feet wide, metalled 15 feet, and describe how you would form it and construct it for estate purposes.

(Two hours allowed.)

ARITHMETIC AND BOOK-KEEPING.

1. Find by practice the value of 72 cwt. 3 qr. 17 lb. at £1, 4s. 6d. per cwt.
2. Reduce £9, 14s. 7d. to the decimal of a guinea, correct to five places of decimals.
3. If 24 men can do a piece of work in 4 days working 10 hours a-day, in how many days can 20 men do a piece of work half as much again in quantity working 8 hours a-day?
4. When a mill-dam is full it can be emptied by the sluice in 18 hours provided no more water is allowed to enter. When the sluice is closed it can be filled in 45 hours. How long will it take to empty when water is running both in and out?

5. Draft a form of wages book suitable for a forester on a large estate.
 6. The following are the transactions of the Backwood Timber Co Prepare therefrom a branched Account of Receipts and Payments for half-year to 31st March 1905, showing the balance due to or by bank and cash balance at that date.

1904.

Oct.	1.	Balance in bank	£70	0	0
"	"	Cash in hand	5	0	0
"	20.	Drawn from bank and paid D. Brown for young trees	50	0	0
Nov.	4.	Drawn from bank and paid J. Watt for repairs to sawmill	10	2	6
"	30.	Drawn from bank for current expenditure	25	0	0
Dec.	6.	Paid Mitchell & Co. for stationery, &c.	6	3	4
"	31.	Drawn from bank and paid wages for quarter	180	0	0

1905.

Jan.	8.	Drawn from bank and paid assessments	£25	2	10
"	17.	Paid expenses of litigation in connection with lawsuit	15	15	0
Feb.	14.	Drawn from bank, and paid for new engine for sawmill	60	0	0
"	28.	Received and paid into bank proceeds of larch timber sold by public auction	320	0	0
March	10.	Received and paid into bank proceeds of oak timber sold to John Walker	200	0	0
"	31.	Drawn from bank, and paid wages for quarter	184	0	0
"	"	Received and paid into bank proceeds of larch timber sold to A. Johnston	30	0	0
"	"	Drawn from bank, and paid head forester's salary for half year	100	0	0

(An hour and a half allowed.)

DAIRY DEPARTMENT

EXAMINATION IN THE SCIENCE AND PRACTICE OF DAIRYING

This Examination, instituted in 1897, is conducted by the National Agricultural Examination Board, appointed jointly by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland.

REGULATIONS.

1. The Societies may hold annually in England and in Scotland, under the management of the National Agricultural Examination Board appointed by them, one or more Examinations for the National Diploma in the Science

and Practice of Dairying; the Diploma to be distinguished shortly by the letters "N.D.D."

2. The Examinations will be held on dates and at places from time to time appointed and duly announced.

3. A non-returnable fee of £1 will be required from each candidate.

4. Forms of Entry for the Examination in England may be obtained from the Secretary of the Royal Agricultural Society of England, 16 Bedford Square, London, W.C., and must be returned to him duly filled up, with the deposit of £1, on or before 31st August.

5. Forms of Entry for the Examination in Scotland may be obtained from the Secretary of the Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh, and must be returned to him duly filled up, with the deposit of £1, on or before 31st August.

6. A candidate may enter for the Examination either in England or Scotland, but not in both; and a candidate who has once taken part in an Examination in England cannot enter for an Examination in Scotland, or *vice versa*. No candidate may sit for the Examination more than twice.

7. A candidate will be required to satisfy the Examiners, by means of written papers, practical work, and *visd voce*, that he or she has—

- (1) A general knowledge of the management of a Dairy Farm, including the rearing and feeding of Dairy Stock, the candidate being required to satisfy the examiners that he or she has had a thorough training and practical experience in all the details of Dairy work as pursued on a farm.
- (2) A thorough acquaintance, both practical and scientific, with everything connected with the management of a Dairy, and the manufacture of Butter and Cheese.
- (3) Practical skill in Dairying, to be tested by the making of Butter and Cheese
- (4) Capacity for imparting instruction to others

8. The Board reserve the right to postpone, to abandon, or in any way, or at any time, to modify an Examination, and also to decline at any stage to admit any particular candidate to the Examination.

BY ORDER,
ERNEST H. GODFREY,
Secretary to the Board,
13 HANOVER SQUARE, LONDON, W.

December 1906.

SYLLABUS OF SUBJECTS OF EXAMINATION

I.—GENERAL MANAGEMENT OF A DAIRY FARM.

1. *General Management of Pastures and Crops on a Dairy Farm.*
2. *Buildings.*—Situation, Surroundings, Construction, Ventilation, and Drainage of Farm Buildings. Suitability of building materials. Water supply. Construction and arrangements of Dairies: (a) for General Purposes; (b) for Special Purposes.
3. *Foods and Feeding.*—Summer and Winter Feeding of Dairy Cattle. Root crops. Green fodder. Ensilage. Different kinds of food and their composition. Their effect upon Milk, Butter, and Cheese. Special Foods used in Dairy Feeding. Preparation of food for Dairy Stock. Rearing

and feeding of young Stock. Feeding and management of Pigs and Poultry.

4. *Dairy Cattle in Health and Disease*.—Characteristics of different Breeds, and choice of Dairy Cattle. General functions of the organs of the animal body. Breeding. Parturition. Organs which secrete milk. Process of milk secretion. Changes which food undergoes during digestion. Diseases of Dairy Cattle and their remedies.

II.—MANAGEMENT OF A DAIRY.

1. *Milk and Cream*.—Process of Milking. Dairy Utensils and Appliances, hand and power. Cooling of Milk. Separation and ripening of Cream. Different systems of Cream-raising. Utilisation of Skim-milk. Keeping of Milk. Importance of Cleanliness. Diseases spread by Milk. Conveyance and sale of Milk. Milk records. Keeping of Dairy and Farm Accounts. Creameries. Butter and Cheese Factories. Different systems of Dairying and their comparative returns.

2. *Butter*.—Churns and other Butter-making appliances, hand and power. Souring of Cream. Churning. Washing and working of Butter. Butter-milk. Packing and transmission of Butter. Salting and keeping of Butter. Colouring. Characteristics of good Butter.

3. *Cheese*.—Principles of its manufacture. Making of different kinds of Cheese (from cream, whole-milk, and skim-milk). Acidity of Milk. Use of Rennet and its substitutes. Whey. Appliances for Cheese-making. Ripening and storage of Cheese. Packing and sale of Cheese. Making of Cream and other soft Cheeses.

III.—CHEMISTRY AND BACTERIOLOGY.

[*N.B.*—In this Section there will be expected of the candidate a sound understanding of the scientific principles underlying the practice of Dairying, a knowledge of the composition, nature, properties, and changes undergone by the different substances met with in Dairying, and a general acquaintance with the principles of laboratory methods so far as Dairying is concerned.]

1. *General Principles of Chemistry*.—The nature of elements and compound bodies. The different forms of matter—solid, liquid, gaseous. Specific gravity, and instruments for determining it. Temperature, and methods of measuring it. Thermometric scales. The influence of temperature in Dairy operations. Physical and chemical changes involved in the following: solution, precipitation, filtration, distillation, oxidation, and reduction. Acids, Bases, Salts—their distinctive properties. Acidity and Alkalinity—their influence and quantitative estimation.

The Atmosphere—its constituents and impurities; its influence on Dairy operations. Atmospheric pressure.

Water—constituents of pure and natural waters. The impurities of water and whence derived. The importance of a pure water-supply in Dairying.

General knowledge of the elementary chemistry of the following substances and their compounds so far as met with in Dairying: Potash, Soda, Ammonia, Lime, Phosphoric Acid, Alcohol, Acetic Acid, Carbonic Acid, Butyric Acid, Lactic Acid, Albumen, Casein, Fats, Milk-sugar, Glycerine, Pepsin.

Saponification of Fats.

2. *Milk and its Products*.—The nature, composition, properties, and chemical constituents of milk. Microscopical appearances presented by

milk. The circumstances that affect the quality and quantity of milk produced by the cow. The influence of feeding. The changes which occur in the keeping of milk, and how produced. The natural and artificial souring of milk. Rennet, its nature and use. Physical and chemical changes involved in the making and keeping of Butter, and in the manufacture and ripening of Cheese. Separated Milk, Condensed Milk, Fermented Milk. The use of Preservatives. Methods of Milk-testing—Mechanical methods, their theory and practice. A general knowledge of the methods employed in the chemical analysis of Milk and Butter. Adulteration of Milk, Cream, Butter, and Cheese—the ways in which adulteration is practised, the changes in composition thereby produced, and a general knowledge of the methods employed in detecting the same.

3. *The Chemistry of Feeding.*—The principal constituents of Food materials, and the functions they severally fulfil. The influence of Food constituents on milk production. Assimilation and Digestion. Animal Heat and Respiration. Milk as a Food. The relation of Food to Manure.

4. *Bacteriology.*—Moulds. Yeasts. Bacteria. The principal kinds of Bacteria met with in Dairying—their forms, methods of reproduction, and conditions of life. The influence of physical agencies upon Bacterial life. Air and Water as carriers of Bacteria. The changes produced by Bacteria in milk and its products. Useful forms and their functions. Harmful forms and their effects—Coagulation, Discoloration, Taints, &c. Pathogenic organisms. The classification of organisms—organised ferments and enzymes. Methods of preparation of pure cultures and their practical use. Nutritive media. Pasteurisation and Sterilisation—the practical application of these to Dairy matters. Fermentation and Putrefaction. Disinfectants and Preservatives.

IV.—PRACTICAL SKILL IN DAIRY WORK.

Candidates must be prepared—(1) to produce at or before the Examination a satisfactory certificate of proficiency in the Milking of Cows, signed by a practical Dairy Farmer, and to satisfy the Examiners by a practical test, if so required; (2) to churn and make into Butter a measured quantity of Cream; and (3) to make one Cheese of each of the following varieties: (i) Hard-pressed, of not less than 30 lb.; (ii) Veined or blue-moulded, of not less than 10 lb.; and (iii) also to make one or other of the following Soft Cheeses: Camembert, Coulommier, or Pont l'Évêque.

V.—CAPACITY FOR IMPARTING INSTRUCTION TO OTHERS.

Candidates must also show practically that they are familiar with the management of a Dairy, and are capable of imparting instruction to others.

EXAMINATIONS IN 1907.

ENGLAND—SATURDAY, September 21, and following days, at a centre to be announced; last date for receiving applications, SATURDAY, August 31.

SCOTLAND—MONDAY, September 30, and following days, at the Dairy School for Scotland, Kilmarnock; last date for receiving applications, SATURDAY, August 31.

The following obtained the Diploma in Scotland in 1906 :—

Miss EDITH ANDERSON, Berryhill, Fowlis Easter, Dundee.
 JOHN ANDERSON, Spango, Sanquhar.
 JOHN COCHRANE, Byreholm, Penpont, Dumfries.
 Miss CATHERINE M. DALLAS, 117 Warrender Park Road, Edinburgh.
 Miss MARGARET TURNBULL DOUGALL, Bonnybridge, Stirlingshire.
 JOHN DUNLOP, Nether Balgillo, Tannadice, Forfar.
 Miss MARY FINLAYSON, Ardjachie Farm, Tain.
 Miss LILIAS LEES, Lagg Farm, Ayr.
 THOMAS LIMOND, Whitehill, Traiboch, Ayr.
 JAMES MACKINTOSH, Lilybank, Blairgowrie.
 Miss GRACE ROBERTSON, The Dog Leap, Limavady, Co. Derry.
 WILFRED GEORGE SANDEMAN, Ferndean, Lenzie, Glasgow.
 JOHN HUNTER SMITH, Grange, Kilmarnock.
 Miss LILY STRANG, Strathmuir, Allanshaw Road, Hamilton.

The following obtained the Diploma in England in 1906 :—

WALTER BIFFEN, Midland Agricultural and Dairy College, Kingston, Derby.
 GEORGE RAMSEY BLAND, Lancashire C.C. Farm, Hutton, Preston.
 Mrs ANNA M. E. BOWMER, Midland Agricultural and Dairy College, Kingston, Derby.
 CHARLES ROBERT DEWEY, Midland Agricultural and Dairy College, Kingston, Derby.
 Miss MAUDE ELIZABETH DOBSON, Midland Agricultural and Dairy College, Kingston, Derby.
 ROBERT FENTON, University College and British Dairy Institute, Reading.
 GEORGE E. H. FERRY, University College and British Dairy Institute, Reading.
 Miss GERTRUDE MARION FREEMAN, Midland Agricultural and Dairy College, Kingston, Derby.
 HAROLD GATHORNE, Midland Agricultural and Dairy College, Kingston, Derby.
 JOHN MILLER LONSDALE, Lancashire C.C. Farm, Hutton, Preston.
 Miss HILDA FRANCE NEWBIGIN, Midland Agricultural and Dairy College, Kingston, Derby.
 Miss EDITH NOBLE, Midland Agricultural and Dairy College, Kingston, Derby.
 Miss ALICE HANNAH PIMLOTT, Midland Agricultural and Dairy College, Kingston, Derby.
 WILFRID SADLER, University College and British Dairy Institute, Reading.
 ROBERT WILLIAM STANFORTH, Lancashire C.C. Farm, Hutton, Preston.
 WILLIAM SUGDEN, Lancashire C.C. Farm, Hutton, Preston.
 Miss FRANCES MARY TAYLOR, Midland Agricultural and Dairy College, Kingston, Derby.
 Miss TANNIE WOOD, Midland Agricultural and Dairy College, Kingston, Derby.
 VICTOR LIONEL YATES, University College and British Dairy Institute, Reading.

EXAMINATION PAPERS OF PAST YEARS.

Copies of the Papers set at the Examinations in 1905 and 1906 may be had on application. Price 6d. per set.

CHEMICAL DEPARTMENT

Chemist to the Society—JAMES HENDRICK, B.Sc., F.I.C., F.C.S.,
Agricultural Department, Marischal College, Aberdeen.

The object of the Chemical Department is to promote the diffusion of a knowledge of Chemistry as applied to agriculture among the members of the Society, to carry out experiments for that purpose, to assist members who are engaged in making local experiments requiring the direction or services of a chemist, to direct members in regard to the use of manures and feeding-stuffs, to assist them to put the purchase of these substances under proper control, and in general to consider all matters coming under the Society's notice in connection with the Chemistry of Agriculture.

MEMBERS' PRIVILEGES IN RESPECT OF ANALYSES.

The fees of the Chemist for analyses made for members of the Society shall, until further notice, be as follows:—

The estimation of *one* ingredient in a manure or feeding-stuff, . . . 5s.

The estimation of *two* or *more* ingredients in . . . do. . . 10s.

These charges apply only to analyses made for agricultural purposes, and for the sole and private use of members of the Highland and Agricultural Society who are not engaged in the manufacture or sale of the substances analysed.

Valuations of manures, according to the Society's scale of units, will be supplied if requested.

MISCELLANEOUS.

Analysis of water ¹ to determine purity and fitness for domestic use (not more than one analysis per year for any one member),	£1	0	0
Analysis of agricultural products—hay, grain, ensilage, roots, &c.,	1	0	0
Milk, full analysis,	0	10	0
Milk, solids and fat,	0	5	0
" fat only,	0	2	6
Butter, full analysis,	0	10	0
" partial analysis (water and fat),	0	5	0
Cheese,	0	10	0
Limestone, giving the percentage of lime,	0	5	0
Limestone, complete analysis,	1	0	0
Lime, including ground lime, percentage of alkaline lime,	0	5	0
" " " complete analysis,	1	0	0
Analysis of soil, to determine fertility and recommendation of manurial treatment,	1	10	0

¹ Cases containing bottles for water samples and instructions for sampling are sent from the laboratory on application.

Complete analysis of soil,	£2 10 0
Search for poisons in food or viscera,	2 0 0
Sulphate of copper, percentage of copper and purity,	0 5 0
" " complete analysis,	0 10 0
Arsenic, carbolic acid and tar acids, and other poisons used in making sheep dips, &c.,	5s. to £1

Samples should be sent (carriage paid) to James Hendrick, B.Sc.,
Agricultural Department, Marischal College, Aberdeen.

Notes to Members sending Samples for Analysis.

The Directors are anxious to take any steps in their power to expose the vendors of inferior fertilisers and feeding-stuffs, and the members can give them assistance in this by supplying to the chemist, when sending samples for analyses, information as to the guarantee, if any, on which the goods were sold, and also as to the price charged.

INSTRUCTIONS FOR SELECTING SAMPLES FOR ANALYSIS.

MANURES.

Any method of sampling mutually agreed upon between buyer and seller may be adopted, but the following method is recommended as a very complete and satisfactory one: Four or more bags should be selected for sampling. Each bag is to be emptied out separately on a clean floor, worked through with the spade, and one spadeful taken out and set aside. The four or more spadefuls thus set aside are to be mixed together until a uniform mixture is obtained. Of this mixture one spadeful is to be taken, spread on paper, and still more thoroughly mixed, any lumps which it may contain being broken down with the hand. Of this mixture two samples of about half a pound each should be taken by the purchaser or his agent, in the presence of the seller or his agent or two witnesses (due notice having been given to the seller of the time and place of sampling), and these samples should be taken as quickly as possible, and put into bottles or tin cases to prevent loss of moisture, and having been labelled, should be sealed by the samplers—one or more samples to be retained by the purchaser, and one to be sent to the chemist for analysis.

FEEDING-STUFFS.

Samples of feeding-stuffs which are in the form of meal may be taken in a similar manner.

Samples of cake should be taken by selecting four or more cakes from the bulk. These should be natted to a size not larger than walnuts. The natted cake should then be thoroughly mixed and samples of not less than one pound each taken from it. The samples should be put into bottles or tins, sealed up, and labelled. One sample should be sent to the analyst, and one or more duplicates retained by the purchaser.

SOILS.

Dig a little trench about two feet deep, exposing the soil and subsoil. Cut from the side of this trench vertical scrapings of the soil down to the top of the subsoil. Catch these on a clean board, and collect in this man-

ner two pounds of soil taken from the whole surface of the section. Similar scrapings of subsoil immediately below should be taken and preserved separately. Five or six similarly drawn samples at least should be taken from different parts of the field, and kept separate while being sent to the chemist, that he may examine them individually before mixing in the laboratory.

VEGETABLE PRODUCTS.

Turnips, &c., at least 50 bulbs carefully selected as of fair average growth.

Hay, straw, ensilage, &c., should be sampled from a thin section cut across the whole stack or silo, and carefully mixed; above 2 lb. weight is required for analysis.

Grain should be sampled like manures.

DAIRY PRODUCE.

Milk.—Samples of milk from individual cows should be taken direct from the milk-pail after complete milking. Average samples from a number of cows should be taken immediately after milking. Specify whether the sample is morning or evening milk, or a mixture of these. Samples to be tested for adulteration should not be drawn from the bottom or taken from the top of standing milk, but they should be ladled from the vessel after the milk has been thoroughly mixed. Samples of milk should be sent immediately to the analyst.

For most purposes a half-pint bottle of milk is a large enough sample.

Butter and Cheese.—About quarter-pound samples are required.

WATERS.

When the water is from a well, it should be pumped for some minutes before taking the sample.

If the well has been standing unused for a long time, it should be pumped for some hours, so that the water may be renewed as far as possible.

If the well has been newly dug or cleaned out, it should be pumped as dry as possible, daily, for a week before taking the sample.

Water from cisterns, tanks, ponds, &c., should be sampled by immersing the bottle entirely under the water, and holding it, neck upwards, some inches below the surface. *Water from the surface should not be allowed to enter the bottle.*

Spring or stream water should not be sampled in very wet weather, but when the water is in ordinary condition. Such waters should be sampled by immersing the bottle, if possible; but if not deep enough for that purpose, a perfectly clean cup should be used for transferring the water to the bottle.

When the bottle has been filled the stopper should be rinsed in the water before replacing it.

Interference with or disturbance of wells or springs, or the ground in their immediate vicinity, must be carefully avoided during sampling, and for at least twenty-four hours before it.

After a sample has been taken, it should be sent to the laboratory as speedily as possible.

A description of the source and circumstances of the water should accompany the sample, as the interpretation of the analytical results depends to some extent on a knowledge of such particulars.

N.B.—Stone jars and old wine bottles are unsuitable for conveying samples. Winchester quarts chemically cleaned should be obtained from the laboratory, Marischal College, Aberdeen.

LOCAL ANALYTICAL ASSOCIATIONS.

With the view of encouraging, as well as regulating the conduct of, Local Analytical Associations, the Society, from 1881 to 1893, contributed from its funds towards their expenses a sum not exceeding £250 annually. In view of the passing of the Fertilisers and Feeding Stuffs Act, 1893, it was decided, at a meeting of the Directors on the 6th of December 1893, to discontinue that grant after the 1st of March 1894.

COMPOSITION AND CHARACTERISTICS OF MANURES AND FEEDING-STUFFS.

(See '*Transactions, Fifth Series, vol. xi. 1899.*)

FORMS OF GUARANTEE

GUARANTEE OF MANURE.

I guarantee that the manure called.....and sold by me to
.....contains a minimum of—

<i>Soluble phosphoric acid</i>	= Phosphate of lime dissolved.	.....per cent.
<i>Insoluble phosphoric acid</i>	= Phosphate of lime undissolved	.....per cent.
<i>Potash salts</i>	= Potash (K_2O)	.....per cent.
<i>Total nitrogen</i>	= Ammonia	.....per cent.

Signature of seller..

Date.....19..

GUARANTEE OF FEEDING-STUFF.

I guarantee that the feeding-stuff called.....and sold by me to
.....contains a minimum of—

.....	per cent albuminoids.
.....	per cent oil.
.....	per cent carbohydrates.

Signature of seller..

Date.....19...

UNITS TO BE USED IN DETERMINING THE MARKET PRICE OF MANURES¹

Terms—CASH, including Bags gross weight—not including Carriage.

N.B.—These units are based on the **RETAIL CASH PRICES OF MANURES** at Leith and Glasgow. When these units are multiplied by the percentages in the analysis of a Manure, they will produce a value representing very nearly the *cash price* at which **TWO TONS** may be bought in fine sowable condition at Leith or Glasgow. Larger purchases may be made on more favourable terms, but for smaller purchases an extra charge of 1s. 6d. per ton is made.

FOR SEASON 1907.

CASH PRICES AS FIXED ON 6TH FEBRUARY.

Items to be Valued.	Peruvian (Riddled).		Fresh Guano.	Bone Meal	Stiramed Bone Flour	Dissolved or Vitrified Bones	Super- phosphates.	
	Nitrogenous	Phosphatic.					Under 80 % Sol.	30% Sol or over.
Phosphates dissolved	P unit	P unit	P unit	P unit.	P unit	P unit.	P unit	P unit
" undissolved	1/6	1/6	1/8	1/4	1/3	1/4	2 0½	2/-
Potash	3/6	3/6						
Nitrogen	17/6	15/6	14/6	12/1	12/1	17/-		
Prices per ton—								
From	160/ up- wards	115/ up- wards	100/ up- wards	105/-	90/-	110/-		58/-
To . . . . .	..	..	..	115/-	100/-	115/-		78/-

MANURES				
At LIME and GLASGOW, except in case of Thomas-slag phosphate.	Guarantee.	Price per Ton.	Unit.	
	Per cent.	£ s d.		
Sulphate of ammonia ²	20 Nitrogen	12 5 0	Nit.=12/8	
Nitrate of soda, 95 per cent ²	15 5 "	11 5 0	" = 14/6	
Muriate of potash, 80 per cent	50 Potash	8 15 0	Pot.= 3/6	
Sulphate of potash	52 "	9 15 0	" = 3/9	
Kainit	12 "	2 5 0	" = 3/9	
Potash salts	30 "	4 15 0	" = 3/2	
Thomas-slag phosphate at place of production }	30 Phosphate	1 15 0	Phos.= 1/2	
" " " " " "	38 "	2 0 0	" = 1/1	
Ground mineral phosphate	60 "	2 10 0	" = /10	

NOTE—This Schedule of Unit Prices of Manures and Feeding-Stuffs is revised each year in the first week of February. Copies of the Schedule may be had by Members any time thereafter.

¹ Instructions regarding units and the valuation of manures are given on p. 36

³ These are the February prices, but they are subject to variation from month to month or oftener.

FEEDING-STUFFS.				Price per ton at Leith and Glasgow.
	Average Analyses.			
	Album.	Oil.	Carbo- hydrates.	
Linseed-cake	28	9	35	£ s d. 8 0 0
" Canadian or American	30	7	35	7 7 6
Decorticated cotton-cake	40	9	20	7 12 6
" " Seed-meal	40	9	20	7 12 6
Undecorticated " (Egyptian)	22	5	30	5 0 0
" " (Bombay).	19	4 5	30	4 15 0
Bean-meal, English ¹	25	2	50	7 16 0
Rice-bran, Rangoon	13	13	50	5 0 0
Locust-bean meal	6	2	70	5 15 0
Dried Distillery grains	20	8	45	5 0 0
" Brewery or malt distillery grains	16	6	50	4 17 6
Barley-bran	15	5	50	5 10 0
Indian corn (American) ¹	10	5	55	5 5 0
Paisley meal (at Paisley)	15	9	60	5 7 6
Linseed (whole)	20	35	14	13 0 0
Linseed-oil . . . . .	..	..	..	22 10 0
Treacle . . . . .	..	..	..	4 15 0

¹ These are the February prices, but they are subject to variation from month to month or oftener.

CLASSIFICATION OF MANURES.

Peruvian guano	{	Guanoes with over 4 per cent of nitrogen are to be considered as nitrogenous. Those with less than this percentage are to be classed as phosphatic guano.
Bone-meal	{	Genuine bone-meal contains from 45 per cent to 55 per cent phosphates, and from 4 per cent to 5 per cent ammonia. If phosphates are low, ammonia will be high, and conversely.
Steamed bone-flour	{	Ground to flour, and containing about 60 to 65 per cent phosphates and about 1 to 1½ per cent nitrogen.
Dissolved bones	{	Must be pure—i.e., containing nothing but natural bones and sulphuric acid.
Mixtures and compound manures	{	To be valued according to the following unit prices: nitrogen, 12s. 8d.; soluble phosphate, 2s.; insoluble phosphate, 1s. 8d.; potash, 3s. 8d., with an addition of 6s. per ton for bags and 7s. 8d. per ton for mixing. These units give the cash price at Leith and Glasgow.
Thomas-slag	{	Not less than 80 per cent of the phosphate should be citric soluble (official method of Board of Agriculture). Fineness of grinding is of paramount importance. The coarsest kind used should be so finely ground that at least 80 per cent passes through a sieve of about 9600 holes per sq. inch.

INSTRUCTIONS FOR VALUING MANURES.

The unit used for the valuation of manures is the hundredth part of a ton, and as the analyses of manures are expressed in parts per hundred, the percentage of any ingredient of a manure when multiplied by the price of the unit of that ingredient represents the value of the quantity of it contained in a ton.

As an example take muriate of potash—a good sample (see p. 35) will be guaranteed to contain 80 per cent *pure* muriate of potash; the other 20 per cent consisting of unimportant impurities, such as common salt.

But all potash manures are valued according to the amount of POTASH they yield, and 80 per cent of pure muriate of potash yields 50 per cent potash (K_2O)—i.e., 50 units per ton; and as a ton of muriate of potash costs £8, 15s., the price of the unit is the fiftieth part of that—viz., 3s. 6d. If on analysis a sample of muriate of potash guaranteed to contain 50 per cent of potash is found to contain only 49 per cent, the price per ton will be 3s. 6d. less—viz., £8, 11s. 6d.

Similarly with all other manures, the price per unit is derived from the price per ton of a sample of good material up to its guarantee, and therefore the proper price per ton of a manure is found by multiplying the price of the unit of the valuable ingredient by the percentage as found by analysis. If a manure contains more than one valuable ingredient, the unit value of each ingredient is multiplied by its percentage, and the values so found when added together give approximately the price per ton of the manure.

Nitrate of soda contains no ammonia, but it contains nitrogen, and 14 units of nitrogen are equivalent to 17 units of ammonia.

The commercial values of manures are determined by means of the UNITS in the following manner:—

Take the analysis of the manure, and look for the following substances:—

Phosphates dissolved (or soluble phosphate)	} No other items but these are to be valued.
" undissolved (or insoluble "	
Nitrogen = Ammonia	
Potash	

Should the analysis or the guarantee not be expressed in that way, the chemist or the seller should be asked to state the quantities in these terms.

Suppose the manure is bone-meal:—

An ordinary bone-meal will contain about 50 per cent phosphate and about $3\frac{1}{2}$ per cent nitrogen. The units for bone-meal are 1s. 4d. for phosphate and 12s. 1d. for nitrogen. Therefore the value is—

Insol. phosphate, 50 times 1s. 4d., equal to	£3 6 8
Nitrogen, $3\frac{1}{2}$ times 12s. 1d., equal to	2 5 4

Say £5 12 0 per ton.

Suppose the manure is dissolved or vitriolated bones:—

It must be guaranteed "pure."

The units in the Schedule are 2s. 7d. for soluble phosphate, 1s. 4d. for insoluble phosphate, and 17s. for nitrogen.

The analysis will be about 16 per cent soluble phosphate, 20 per cent insoluble phosphate, and $2\frac{1}{2}$ per cent nitrogen. In that case the value would be—

Sol. phosphate,	16 times 2s. 7d., equal to	£2 1 4
Insol. "	20 " 1s. 4d., "	1 6 8
Nitrogen,	$2\frac{1}{2}$ " 17s., "	2 6 9

Say £5 14 9 per ton.

Suppose the manure is a superphosphate,—say an ordinary superphosphate, with 38 per cent soluble phosphate and 2 per cent insoluble phosphate. It is valued thus:—

Sol. phosphate, 38 times 2s., equal to, say, £3, 16s. per ton.

Insoluble phosphate is not valued in a superphosphate.

Note.—The units have reference solely to the MARKET PRICE of Manures, and not to their AGRICULTURAL VALUES.

Thus, in stating soluble phosphate in dissolved bones at 2s. 7d. per unit, and that in superphosphate at 2s., it is meant that these are the prices per unit at which soluble phosphate can be bought in these two manures; but it does not mean that the soluble phosphate in the one is 7d. per unit better as a manure than that in the other. It is probably no better.

BOTANICAL DEPARTMENT

*Consulting Botanist to the Society—A. N. M'ALPINE,
6 Blythswood Square, Glasgow.*

The Society have fixed the following rates of charge for the examination of plants and seeds for the *bona fide* and individual use and information of members of the Society (not being seedsmen), who are particularly requested, when applying to the Consulting Botanist, to mention the kind of examination they require, and to quote its number in the subjoined schedule. The charge for examination must be paid at the time of application, and the carriage of all parcels must be prepaid.

Scale of Charges.

1. A report on the purity, amount, and nature of foreign materials, and the germinating power of a sample of seed, 1s.
2. Determination of the species of any weed or other plant, or of any vegetable parasite, with a report on its habits and the means for its extermination or prevention, 1s.
3. Report on any disease affecting farm crops, 1s.
4. Determination of the species of any natural grass or fodder plant, with a report on its habits and pasture or feeding value, 1s.

The Consulting Botanist's Reports are furnished to enable members—purchasers of seeds and corn for agricultural or horticultural purposes—to test the value of what they buy, and are not to be used or made available for advertising or trade purposes by seedsmen or otherwise.

Purchase of Seeds.

The purchaser should obtain from the vendor, by invoice or other writing, the proper designation of the seed he buys, with a guarantee of the percentage of purity and germination, and of its freedom from ergot, and in the case of clover, from the seeds of dodder or broom-rape.

It is strongly recommended that the purchase of *prepared mixtures* of seeds should be avoided. The different seeds should be purchased separately and mixed by the farmer: mixtures cannot be tested for germination.

The Sampling of Seeds.

The utmost care should be taken to secure a fair and honest sample. This should be drawn from the bulk delivered to the purchaser, and not from the sample sent by the vendor.

When legal evidence is required, the sample should be taken from the bulk, and placed in a sealed bag in the presence of a witness. Care should be taken that the sample and bulk be not tampered with after delivery, or mixed or brought in contact with any other sample or bulk.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals and the larger seeds. When the bulk is obviously impure the sample should be at least double the amount specified. Grass seeds should be sent at least four weeks, and seeds of clover and cereals two weeks, before they are to be used.

The exact name under which the sample has been sold and purchased should accompany it.

Reporting the Results.

The Report will be made on a schedule in which the nature and amount of impurities will be stated, and the number of days each sample has been under test, with the percentage of the seeds which have germinated.

"Hard" clover seeds, though not germinating within the time stated, will be considered good seeds, and their percentage separately stated.

The impurities in the sample, including the chaff of the species tested, will be specified in the schedule, and only the percentage of the pure seed of that species will be reported upon; but the REAL VALUE of the sample will be stated. The Real Value is the combined percentages of purity and germination, and is obtained by multiplying these percentages and dividing by 100: thus in a sample of Meadow Fescue having 88 per cent purity and 95 per cent germination, 88 multiplied by 95 gives 8360, and this divided by 100 gives 83.6, the Real Value.

Selecting Specimens of Plants.

The whole plant should be taken up and the earth shaken from the roots. If possible the plants must be in flower or fruit. They should be packed in a light box, or in a firm paper parcel.

Specimens of diseased plants or of parasites should be forwarded as fresh as possible. They should be placed in a bottle, or packed in tinfoil or oil-silk.

All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstances (soil, situation, &c) which, in the opinion of the sender, would be likely to throw light on the inquiry.

Parcels or letters containing seeds or plants for examination (carriage or postage paid) must be addressed to Professor M'Alpine, Botanical Laboratory, 6 Blythswood Square, Glasgow.

ENTOMOLOGICAL DEPARTMENT

Consulting Entomologist to the Society—Dr R. STEWART MACDOUGALL,
13 Archibald Place, Edinburgh.

Arrangements have been made with Mr R. Stewart MacDougall, M.A., D.Sc., Edinburgh, to advise members of the Society regarding insects or allied animals which, in any stage of their development, infest—

- | | |
|-----------------------------------|-------------------------------------|
| (a) Farm crops. | (d) Fruit and fruit trees. |
| (b) Stored grain. | (e) Forest trees and stored timber. |
| (c) Garden and greenhouse plants. | (f) Live stock (including poultry). |

Members consulting Dr MacDougall will please forward with their queries examples of the injured plants, or the injured parts of plants, &c., as well as specimens of the insects or other animals believed to be the cause of the injury.

Specimens should be sent in tin or wooden boxes, or in quills, to prevent injury in transmission.

Address letters and parcels (carriage or postage paid) to Dr R. Stewart MacDougall, 13 Archibald Place, Edinburgh.

The Directors have fixed the fee payable by members to Dr MacDougall at 1s. for each case upon which he is consulted: this fee must be sent to him along with the application for information.

PREMIUMS

GENERAL REGULATIONS FOR COMPETITORS.

1. It is to be distinctly understood that the Society is not responsible for the views, statements, or opinions of any of the writers whose papers are published in the 'Transactions.'

2. All reports must be legibly written, and on one side of the paper only; they must specify the number and subject of the Premium for which they are in competition; they must bear a distinguishing motto, and be accompanied by a sealed letter, similarly marked, containing the name and address of the reporter—initials must not be used.

3. No sealed letter, unless belonging to a report found entitled to the Premium offered, or a portion of it, will be opened without the author's consent.

4. Reports for which a Premium, or a portion of a Premium, has been awarded, become the property of the Society, and cannot be published in whole or in part, nor circulated in any manner, without the consent of the Directors. All other papers will be returned to the authors if applied for within twelve months.

5. The Society is not bound to award the whole or any part of a Premium.

6. All reports must be of a practical character, containing the results of the writer's own observation or experiment, and the special conditions attached to each Premium must be strictly fulfilled. General essays, and papers compiled from books, will not be rewarded or accepted. Weights and measurements must be indicated by the imperial standards.

7. The Directors, before or after awarding a Premium, shall have power to require the writer of any report to verify the statements made in it.

8. The decisions of the Board of Directors are final and conclusive as to all matters relating to Premiums, whether for Reports or at General or District Shows; and it shall not be competent to raise any question or appeal touching such decisions before any other tribunal.

9. The Directors will welcome papers from any Contributor on any suitable subject, whether included in the Premium List or not; and if the topic and the treatment of it are both approved, the writer may be remunerated and his paper published.

CLASS I.

REPORTS.

SECTION 1.—THE SCIENCE AND PRACTICE OF AGRICULTURE.

FOR APPROVED REPORTS.

1. On any useful practice in Rural Economy adopted in other countries, and susceptible of being introduced with advantage into Scotland—The Gold Medal. To be lodged by 1st November in any year.

The purpose chiefly contemplated by the offer of this premium is to induce travellers to notice and record such particular practices as may seem calculated to benefit Scotland. The Report to be founded on personal observation.

2. Approved Reports on other suitable subjects. To be lodged by 1st November in any year.

SECTION 2.—ESTATE IMPROVEMENTS.

FOR APPROVED REPORTS.

1. By the Proprietor in Scotland who shall have executed the most judicious, successful, and extensive Improvement—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

Should the successful Report be written for the Proprietor by his resident factor or farm manager, a Minor Gold Medal will be awarded to the writer in addition to the Gold Medal to the Proprietor.

The merits of the Report will not be determined so much by the mere extent of the improvements, as by their character and relation to the size of the property. The improvements may comprise reclaiming, draining, enclosing, planting, road-making, building, and all other operations proper to landed estates. The period within which the operations may have been conducted is not limited, except that it must not exceed the term of the Reporter's proprietorship.

2. By the Proprietor or Tenant in Scotland who shall have reclaimed within the ten preceding years not less than forty acres of Waste Land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

3. By the Tenant in Scotland who shall have reclaimed within the ten preceding years not less than twenty acres of Waste Land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

4. By the Tenant in Scotland who shall have reclaimed not less than ten acres within a similar period—The Medium Gold

Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The Reports in competition for Nos. 2, 3, and 4 may comprehend such general observations on the improvement of waste lands as the writer's experience may lead him to make, but must refer especially to the lands reclaimed—to the nature of the soil—the previous state and probable value of the subject—the obstacles opposed to its improvement—the details of the various operations—the mode of cultivation adopted—and the produce and value of the crops produced. As the required extent cannot be made up of different patches of land, the improvement must have relation to one subject; it must be of profitable character, and a rotation of crops must have been concluded before the date of the Report. *A detailed statement of the expenditure and return and a certified measurement of the ground are requisite.*

5. By the Proprietor or Tenant in Scotland who shall have improved within the ten preceding years the Pasturage of not less than thirty acres, by means of top-dressing, draining, or otherwise, without tillage, in situations where tillage may be inexpedient—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

6. By the Tenant in Scotland who shall have improved not less than ten acres within a similar period—The Minor Gold Medal. To be lodged by 1st November in any year.

Reports in competition for Nos. 5 and 6 must state the particular mode of management adopted, the substances applied, the elevation and nature of the soil, its previous natural products, and the changes produced.

SECTION 3.—HIGHLAND INDUSTRIES AND FISHERIES.

FOR APPROVED REPORTS.

1. The best mode of treating native Wool; cleaning, carding, dyeing, spinning, knitting, and weaving by hand in the Highlands and Islands of Scotland—Five Sovereigns. To be lodged by 1st November in any year.

SECTION 4.—MACHINERY.

FOR APPROVED REPORTS.

To be lodged by 1st November in any year.

SECTION 5.—FORESTRY DEPARTMENT.

FOR APPROVED REPORTS.

1. On Plantations of not less than eight years' standing formed on deep peat-bog—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The premium is strictly applicable to deep peat or flow moss; the condition of the moss previous to planting, as well as at the date of the Report, should, if possible, be stated.

The Report must describe the mode and extent of the drainage, and the effect it has had in subsiding the moss—the trenching, levelling, or other preliminary operations that may have been performed on the surface—the mode of planting—kinds, sizes, and number of trees planted per acre—and their relative progress and value, as compared with plantations of a similar age and description grown on other soils in the vicinity.

CLASS II.

DISTRICT COMPETITIONS.

REGULATIONS 1907.

Grants in aid of DISTRICT COMPETITIONS for 1908 must be applied for before 1st November 1907, on Forms to be obtained from the Secretary.

When a Money Grant has expired, the District cannot apply again for another Money Grant for four years.

SECTION I.—GRANTS TO DISTRICT SOCIETIES FOR HORSES, CATTLE, SHEEP, AND PIGS.

1. CLASS OF STOCK—LIMIT OF GRANTS, £340.—The Highland and Agricultural Society will make Grants to District Societies for prizes for *Breeding Animals* of any of the following Classes of Stock, viz :—

<i>Cattle.</i>	<i>Sheep.</i>
Shorthorn.	Blackface.
Aberdeen-Angus.	Border Leicester.
Galloway.	Half-Bred.
Highland.	Shropshire.
Ayrshire.	Oxford Down.
Jersey.	Suffolk.
	Wensleydale.
<i>Horses.</i>	<i>Swine.</i>
Draught Horses.	Any Pure Breed.
Hunters.	
Hackneys.	
Ponies.	
Shetland Ponies.	

Cross-bred animals are not eligible. The Prizes must be confined to *Breeding Animals*; "bullocks," "geldings," "wethers," and "hog pigs," are excluded.

2. GRANT TO DISTRICT, £12.—The portion of the Grant to any one District Society shall not exceed the sum of £12 in any one year.

3. ALLOCATION OF GRANT.—The Grant from the Highland and Agricultural Society is not to be applied as a Grant in aid of the Premiums offered by the Local Society, but must be offered in the form of separate Prizes for the Animals chosen; and the Prizes must be announced in the *Premium List and Catalogue of the Show* as "given by the Highland and Agricultural Society."

4. CONTINUANCE OF GRANT THREE YEARS.—The Grant shall continue for three alternate years, provided always that the District Society shall, in the two intermediate years, continue the competition by offering Premiums for the same class of Stock as that selected in each previous year to compete for the Highland and Agricultural Society's Prizes. If no competition takes place for two years the Grant expires.

5. When it is agreed to hold the General Show of the Society in any district, no provincial show shall be held in that district in the months of June, July, or August.

6. MEDALS.—In the two alternate years the Highland and Agricultural Society will place three Silver Medals at the disposal of the District Societies, for the same classes of Stock as those for which the Money Premiums are offered, provided that not less than three lots are exhibited in the same class.

7. RULES OF COMPETITION.—The Rules of Competition for the Premiums, the Funds for which are derived from Grants of the Highland and Agricultural Society, shall be such as are generally enforced by the Society receiving the Grant for Premiums offered by itself.

8. AREA AND PARISHES.—FIVE PARISHES.—When making application for Grants from the Highland and Agricultural Society, the District Society must delineate the area and the number of parishes comprised in the district, and, *except in special cases*, no District Society shall be entitled to a Grant whose show is not open to at least *five* Parishes.

9. REPORTS.—Blank Forms for Reports will be furnished to the Secretaries of the different District Societies. Both in the years when the Grant is offered and in the two intermediate years, detailed reports of the competition must be given on these Forms and lodged with the Secretary of the Highland and Agricultural Society as soon as possible after the Show, and in no case later than 1st November. These reports are subject to the approval of the Directors of the Highland and Agricultural Society, against whose decision there shall be no appeal. All Reports must be signed and certified as marked in the Form.

10. GRANTS—WHEN PAID.—The Grants made to District Societies will be paid in December after the Reports of the awards of the prizes have been received and found to be in order and passed by the Board of Directors, the Money Grants being paid to the Secretaries of the Local Societies and the Medals sent direct to the winners. *The Secretary of the District Society must not on any condition whatever pay any premium offered by the Highland and Agricultural Society until he has been informed that the awards are in order and has received the Grant from the Highland and Agricultural Society.*

11. RENEWAL OF APPLICATION.—No application for renewal of a Money Grant to a District Society will be entertained until the expiration of *four* years from the termination of the last Grant.

12. DISPOSAL OF APPLICATIONS.—In disposing of applications for District Grants, the Directors of the Highland and Agricultural Society shall keep in view the length of interval that has elapsed since the expiration of the last Grant, giving priority to those District Societies which have been longest off the list.

DISTRICTS.

1. DEESIDE UNION.—*Convener*, Lieut.-Col. Innes of Learney, Torphins; *Joint-Secretaries*, John Davidson and John Cooper, Banchory. Granted 1903.
2. TURRIFF.—*Convener*, James Beaton, Aspen Bank, Turriff; *Secretary*, R. Cruickshank, Claymires, Turriff. Granted 1903.
3. MARNOCK AND CORNHILL.—*Convener*, James O. Morrison of Culvie, Tipperly, Banff; *Secretary*, Douglas B. Leask, North of Scotland Bank, Aberchirder. Granted 1903.
4. KIRKINTILLOCH.—*Convener*, Alex. Park, 175 Hope Street, Glasgow; *Secretary*, Andrew Matson, National Bank, Kirkintilloch. Granted 1903.
5. ARDOCH.—*Convener*, W. A. Wedderspoon, Carsbreck, Blackford; *Secretary*, John Maxton, Rhynd, Braco. Granted 1903.

6. EASTERN DISTRICT OF STIRLINGSHIRE.—*Convener*, Thomas D. Wallace, Callendar Park, Falkirk; *Secretary*, James Learmonth, 10 Newmarket Street, Falkirk. Granted 1903.
7. CASTLE DOUGLAS.—*Convener*, John M'Kie of Bargaly, Ernespie, Castle Douglas; *Secretary*, Malcolm M'L. Harper, British Linen Co. Bank, Castle Douglas. Granted 1902. (In abeyance in 1903 on account of the Dumfries Show.)
8. UNITED BANFFSHIRE.—*Convener*, William MacIntosh, Factor, Banff; *Secretary*, John A. Badenoch, Accountant, Banff. Granted 1905.
9. CAITHNESS.—*Convener*, E. W. Horne, Stirkoke, Wick; *Secretary*, George Harrold, Accountant, Wick. Granted 1905.
10. ANNANDALE UNION.—*Convener*, William Roddick, Banker, Annan; *Secretary*, J. R. Byers, Royal Bank Buildings, Lockerbie. Granted 1905.
11. MORAYSHIRE.—*Convener*, Colonel C. J. Johnston of Lesmurdie, Elgin; *Secretary*, W. Rose Black, Town and County Bank, Elgin. Granted 1905.
12. ANGUS.—*Convener*, J. G. Soutar, West Hall, Dundee; *Secretary*, James Kydd, 86 High Street, Arbroath. Granted 1905.
13. SPBY, AYEN, AND FIDDOCHSIDE.—*Convener*, Sir George Macpherson Grant of Ballindalloch, Bart.; *Secretary*, Robert Dick Stuart, Seafield Square, Rothes. Granted 1905.
14. WESTERN DISTRICT OF FIFE.—*Convener*, James Millar, Waulkmill, Charlestown; *Secretary*, Robert Husband, 1 Douglas Street, Dunfermline. Granted 1905.
15. DALBEATTIE.—*Convener*, W. J. H. Maxwell of Munches, Dalbeattie; *Secretary*, J. E. Milligan, Solicitor, Dalbeattie. Granted 1905.
16. BLACK ISLE.—*Convener*, Geoffrey A. St Quintin, Kincurdy, Fortrose; *Secretary*, Allan MacDonald, Bank Agent, Fortrose. Granted 1904. (In abeyance in 1905 on account of the Joint Show.)
17. FORTH.—*Convener*, David M'Culloch, The Inn, Forth; *Secretary*, James Barrie of Mossplat, Carstairs. Granted 1904. (In abeyance in 1905 on account of the Glasgow Show.)
18. INVERNESS-SHIRE.—*Convener*, J. Huntly Macdonald, Charleston, Inverness; *Secretary*, D. Gray, 36 Union Street, Inverness. Granted 1903. (In abeyance in 1903. Grant given to the Joint Show.) (In abeyance in 1906. Overlooked to award Grant.)
19. MAR.—*Convener*, Charles Rennie, West Fintray, Kintore; *Secretary*, Neil Smith, Blackburn, Kinellar. Granted 1907.
20. KINGLASSIE.—*Convener*, James Porter, Prinlows House, Leslie; *Secretary*, Alexander Wallace, Solicitor, Kirkcaldy. Granted 1907.
21. WEST LINTON.—*Convener*, John H. Forbes of Medwyn, West Linton; *Secretary*, F. W. Dyson, Chapelhill, Peebles. Granted 1907.
22. DUNBLANE.—*Convener*, A. H. Anderson, Kippendavie Estate Office, Dunblane; *Secretary*, James Barty, Solicitor, Dunblane. Granted 1906.
23. KINGARDINESHIRE.—*Convener*, Alexander Milne, Newtonhill Farm, Stonehaven; *Secretary*, A. B. Annandale, Stonehaven. Granted 1904.
24. BUCHLYVIE AND GARTMORE.—*Convener*, Paul Hendry, Gartmore, Port of Menteith; *Secretary*, Daniel Fisher, Garchel, Buchlyvie. Granted 1904.
25. PERTSHIRE.—*Convener*, John Graham, jun., Tippermallo, Methven; *Secretary*, John F. Smith, Eastfield, Bridge of Earn. Granted 1903. (In abeyance in 1904 on account of the Perth Show.)
26. CARRICK.—*Convener*, Alex. Cross of Knockdon, 19 Hope Street, Glasgow; *Joint-Secretaries*, David Brown and Charles W. Brown, Royal Bank, Maybole. Granted 1903. (In abeyance in 1905 on account of the Glasgow Show.)

27. CUMNOCK.—*Convener*, James Clark, Crossflatt, Muirkirk; *Secretary*, David Stevenson, Changue, Cumnock. Granted 1903. (In abeyance in 1905 on account of the Glasgow Show.)
28. UPPER WARD OF LANARKSHIRE.—*Convener*, John Morton, Whelphill, Abington, Lanark; *Secretary*, W. D. Brown, Fernielea, Lanark. Granted 1903. (In abeyance in 1905 on account of the Glasgow Show.)
29. ABERDOUR.—*Convener*, Alex. Lovie, Nether Boyndlie, Fraserburgh; *Secretary*, William Chapman, Woodhead, New Aberdour. Granted 1906.
30. ROYAL NORTHERN.—*Convener*, George J. Walker, Hillside House, Portlethen; *Secretary*, Robert R. Ross, Balmoral Buildings, 67 Green, Aberdeen. Granted 1906.
31. NETHER LOBN.—*Convener*, Norman W. Weir, Tighantruish, Oban; *Secretary*, Alexander Duff, Estate Office, Kilbrandon, Oban. Granted 1906.
32. NEW MONKLAND.—*Convener*, John W. Findlay, 4 Bank Street, Airdrie; *Secretary*, James Eglinton, National Bank, Airdrie. Granted 1904. (In abeyance in 1905 on account of the Glasgow Show.) (Medals and Grant awarded in 1906.)
33. WEST TEVIOTDALE.—*Convener*, James Elliot, Flex, Hawick; *Secretary*, . Granted 1903. (In abeyance in 1906 on account of the Peebles Show.)
34. DALKEITH.—*Convener*, James Cook, Arniston, Gorebridge; *Secretary*, T. Watson Dods, Auctioneer, Dalkeith. Granted 1905. (In abeyance in 1907 on account of the Edinburgh Show.)
35. WEST LOTHIAN.—*Convener*, Marquis of Linlithgow; *Secretary*, Archibald Cochrane, Trinlaymire, Linlithgowshire. Granted 1905. (In abeyance in 1907 on account of the Edinburgh Show.)

In 1907.

Nos. 1, 2, 3, 4, 5, 6, and 7 are in competition for the last year.

Nos. 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18 are in competition for the second year.

Nos. 19, 20, and 21 are in competition for the first year.

Nos. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, and 33 compete for local Premiums.

Nos. 34 and 35 are in abeyance on account of the Edinburgh Show.

SECTION 2.—GRANTS TO HORSE ASSOCIATIONS, &c., FOR STALLIONS FOR AGRICULTURAL PURPOSES.

1. HORSES.—LIMIT OF GRANT, £210.—The Highland and Agricultural Society will make Grants to Horse Associations and other Societies in different districts engaging Stallions for agricultural purposes. The total sum expended by the Highland and Agricultural Society in such Grants shall not exceed the sum of £210 in any one year.

2. GRANT TO EACH, £15.—The portion of the Grant to any one Horse Association, &c., shall not exceed the sum of £15 in any one year.

3. CONTINUANCE OF GRANT THREE YEARS.—INTERMEDIATE YEAR.—The Grant shall continue for three alternate years, provided always that the Horse Association or Society shall, in the two intermediate years, offer at least a sum equal in amount to that granted by the Highland and Agricultural Society for the hire of a Horse in connection with the Association or Society to whom the Grant is made.

4. PENALTY FOR NOT ENGAGING HORSE.—In the event of a Horse not being engaged in any one year while the provisions of the Grant are

in force, the Grant made by the Highland and Agricultural Society will cease.

5. RULES 9 (Reports), 10 (Time of Payment), 11 (Renewal of Grant), and 12 (Disposal of Applications) applicable to Section 1, shall be applicable to Section 2.

DISTRICTS.

1. GIGHA.—*Convener*, W. J. Yorke Scarlett of Gigha ; *Secretary*, W. W. Philip, Estate Office, Gigha. Granted 1903.
2. CUMBERNAULD, KILSYTH, AND KIRKINTILLOCH.—*Convener*, Alexander Whitelaw of Gartshore, Kirkintilloch ; *Secretary*, Alexander Park, 175 Hope Street, Glasgow. Granted 1903.
3. GATEHOUSE.—*Convener and Secretary*, D. Y. Veitch, Low Creoch, Gatehouse. Granted 1903.
4. SCONE, STRATHOED, AND MURTHLY.—*Convener*, W. S. Ferguson, Pictstonhill, Perth ; *Secretary*, James Stewart, Friarton, Perth. Granted 1903.
5. KELSO DISTRICT CLYDESDALE HORSE SOCIETY.—*Convener*, W. G. Hogarth, Linton, Bankhead, Kelso ; *Secretary*, A. Riddell, 3 Square, Kelso. Granted 1903.
6. CAITHNESS HORSE-BREEDING ASSOCIATION.—*Convener and Secretary*, Robert Morris, Reiss Lodge, Wick. Granted 1905.
7. MORAY HORSE-BREEDING ASSOCIATION.—*Convener*, Andrew B. Leitch, Inchstelly, Forres ; *Secretary*, H. M. S. Mackay, Bank Agent, Elgin. Granted 1905.
8. CARSE AND DUNDEE DISTRICT STALLION SOCIETY.—*Convener*, Captain Clayhills Henderson of Invergowrie, R.N., Dundee ; *Secretary*, Alex. Anderson, Berryhill, Dundee. Granted 1905.
9. SELKIRK AND GALASHIELS.—*Convener*, Thomas D. Connochie, M.R.C.V.S., Galashiels ; *Secretary*, D. C. Finlay, National Bank House, Galashiels. Granted 1905.
10. BUCHLYVIE AND VALE OF MENTEITH HORSE-BREEDING SOCIETY.—*Convener*, Stephen Mitchell of Boquhan, Kippen Station ; *Secretary*, John Drysdale, Arngibbon, Port of Menteith Station. Granted 1905.
11. COWAL.—*Convener*, John M'Alister, Ardyne, Toward ; *Secretary*, Neil Nicolson, Auchgoyle Millhouse, Tighnabruach. Granted 1907.
12. KINTYRE.—*Convener*, John Gemmell, Dalrioch, Campbeltown ; *Secretary*, G. Erskine Inglis, Estates Office, Campbeltown. Granted 1907.
13. GLENESK AND LETHNOT.—*Convener and Secretary*, J. Crowe, Tarfside, Lochlee, Edzell. Granted 1907.
14. WESTERN DISTRICT OF MID-LOTHIAN.—*Convener*, J. E. Stoddart of Howden, Mid-Calder ; *Secretary*, J. T. Mungle, Bank House, West Calder. Granted 1907.
15. ROSS-SHIRE.—*Convener*, Andrew Mackenzie of Dalmore, Alness ; *Secretary*, John Ross, Meikle Tarrel, Fearn. Granted 1907.
16. INSCH AND GARIOCH HORSE-BREEDING SOCIETY.—*Convener*, C. E. N. Leith Hay of Leith Hall, Inverurie ; *Secretary*, George A. Bruce, Inchfield, Insch, Aberdeen. Granted 1904.
17. UPPER DONSIDER.—*Convener*, W. D. Ellis, Kinclune, Towie ; *Secretary*, John Milne, Town and County Bank, Kildrummy. Granted 1904.
18. LAMMERMOOR PASTORAL.—*Convener*, George G. Turnbull of Abbey St Bathans, Grant's House ; *Secretary*, Thos. Stephenson, Duns. Granted 1904.

19. UPPER NITHSDALE HORSE SOCIETY.—*Convener*, D. M. MacRae, Stenhouse, Thornhill; *Secretary*, David Paterson, Solicitor, Thornhill. Granted 1904.
20. CENTRAL BANFFSHIRE.—*Convener*, James M'William, Stoneytown, Boharm; *Secretary*, George Donald, Ladyhill, Keith. Granted 1906.
21. DUMFRIES AND DISTRICT CLYDESDALE HORSE-BREEDING SOCIETY.—*Convener*, James Brown, Burnside, Hollywood; *Secretary*, George Will, Crichton Farm, Dumfries. Granted 1906.
22. BIGGAR AND PEEBLES CLYDESDALE HORSE-BREEDING SOCIETY.—*Convener*, William Noble, Lochurd, Dolphinton; *Secretary*, R. G. Murray, Spittal, Biggar. Granted 1906.
23. STRATHEARN.—*Convener*, Sir Charles Dundas of Dunira, Bart., Comrie; *Secretary*, A. Anderson Cannon, Solicitor, Crieff. Granted 1906.

In 1907.

Nos. 1, 2, 3, 4, and 5 are in competition for the last year.

Nos. 6, 7, 8, 9, and 10 are in competition for the second year.

Nos. 11, 12, 13, 14, and 15 are in competition for the first year.

Nos. 16, 17, 18, 19, 20, 21, 22, and 23 compete for local premiums.

SPECIAL GRANTS.

- £40 to the Highland Home Industries Association.—*Joint-Secretaries*, Miss Muriel K. Mackenzie, Conon House, Conon Bridge, Ross-shire, and Miss Jessie D. C. Ross, Riverfield, Inverness. Granted 1895. (Did not hold a Competition in 1899 or 1900.)
- £20 to the Ayrshire Agricultural Association, to be competed for at the Dairy Produce Show at Kilmarnock.—*Convener*, The Hon. G. R. Vernon, Auchans House, Kilmarnock; *Secretary*, John Howie, 58 Alloway Street, Ayr. Granted 1872.
- £5 to Shetland Agricultural Society.—*Convener*, J. M. Goudie, Lerwick; *Secretary*, James J. Brown, Lerwick. Granted 1893. (In abeyance in 1907.)
- £3 to Orkney.—*Convener and Secretary*, James Johnston, Orphir House, Orphir, Orkney. Granted 1883.
- £3 to East Mainland, Orkney.—*Convener*, Alfred Reid, Braebuster, Kirkwall; *Secretary*, John Clouston, Graemeshall, Holm, by Kirkwall. Granted 1898.
- £3 to West Mainland, Orkney.—*Convener*, W. G. T. Watt, Skail House, Stromness; *Secretary*, John Gibson, Seatter, Stromness, Orkney. Granted 1900. (In abeyance in 1907.)
- £3 to Sanday, Orkney.—*Convener*, W. Cowper Ward, Scar House, Sanday, Orkney; *Secretary*, K. H. Sinclair, Kettletoft, Sanday, Orkney. Granted 1902.
- £3 to Rousay, Orkney.—*Convener*, H. H. Horne, Trumland Farm, Rousay, Orkney; *Secretary*, Allan Gibson, Myres, Sourin, Rousay. Granted 1903. (In abeyance in 1907.)
- £3 to South Ronaldshay and Burray, Orkney.—*Convener*, Arch. Allan, St Margaret's Hope, Orkney; *Joint-Secretaries*, William Cromarty, Widewall House, and Robert Cromarty, Sandwick House, St Margaret's Hope, Orkney. Granted 1904. (In abeyance in 1907.)
- North of Scotland Root, Vegetable, &c.—*Convener*, John Maitland, East Balhagardy, Inverurie; *Secretary*, James Eddie, F.R.H.S., Inverurie. 4 Medals. Granted 1899.
- £25 to Northern Counties Joint Show at Dingwall.—*Secretary*, James Cumming, Dingwall.

MEDALS IN AID OF PREMIUMS GIVEN BY LOCAL SOCIETIES.

The Society, being anxious to co-operate with local Associations, will give a limited number of Silver Medals annually to Societies, not on the list of Cattle, Horse, or Sheep Premiums, in addition to the Money Premiums awarded in the Districts for—

1. Best Bull, Cow, or Heifer of any pure breed included in Section 1.
2. Best Stallion, or Mare of any pure breed included in Section 1.
3. Best Tup, or Pen of Ewes of any pure breed included in Section 1.
4. Best Boar, Sow, or Breeding-Pig of any pure breed.
5. Best Pens of Poultry.
6. Best Sample of any variety of Wool.
7. Best Sample of any variety of Seeds.
8. Best managed Farm.
9. Best managed Green Crop.
10. Best managed Hay Crop.
11. Best managed Dairy.
12. Best Sweet-Milk Cheese.
13. Best Cured Butter.
14. Best Fresh Butter.
15. Best collection of Roots.
16. Best kept Fences.
17. Male Farm Servant who has been longest in the same service, and who has proved himself most efficient in his duties, and to have invariably treated the animals under his charge with kindness.
18. Female Servant in charge of Dairy and Poultry who has been longest in the same service, and who has proved herself most efficient in her duties, and to have invariably treated the animals under her charge with kindness.
19. Best Sheep-Shearer.
20. Most expert Hedge-Cutter.
21. Most expert Labourer at Draining.
22. Best Maker of Oat-Cakes.

It is left to the local Society to choose out of the foregoing list the classes for which the Medals are to be competed.

The Medals are granted for two years, and lapse if not awarded in those years.

No Society shall receive more than two Medals for two years.

Aberdeenshire.

1. CROMAR, UPPER DEE AND DONSIDER.—*Convener*, W. H. Collman of Deskrie, Tillypronie House, Tarland; *Secretary*, William Anderson, Hopewell, Tarland. 2 Medals. 1907.
2. INVERURIE.—*Convener*, John Tait, Crichtie, Inverurie; *Secretary*, John Strachan, Albert Street, Inverurie. 2 Medals. 1907.
3. VALE OF ALFORD.—*Convener*, Wm. A. Mitchell, Auchnagathel, Whitehouse; *Secretary*, A. Imlach, Valeview, Alford. 2 Medals. 1907.

Argyllshire.

4. GIGHA.—*Convener*, W. J. Yorke Scarlett of Gigha; *Secretary*, W. W. Philip, Estate Office, Gigha. 2 Medals. 1906.
5. TARBERT BRANCH OF ARGYLL CATTLE SHOW.—*Convener*, G. P. Campbell, Stonefield, Tarbert, Lochfyne; *Secretary*, James M'Dougall, Burnside, Tarbert, Lochfyne. Medal. 1906. (3 Medals in 1907.)

Ayrshire.

6. BEITH. — *Convener*, David Kerr, Marshalland, Beith; *Secretary*, Matthew Gilmour, Clydesdale Bank, Beith. 2 Medals. 1907.
7. DALRY. — *Convener*, Andrew C. Patrick, Greenbank, Dalry; *Secretary*, James Allan, West Kirkland, Dalry. 2 Medals. 1906.
8. FENWICK. — *Convener*, James Dunlop, Gree Farm, Fenwick; *Secretary*, James Dunlop, Midland, Fenwick. 2 Medals. 1906.
9. MUIRKIRK. — *Convener*, James Hamilton, Nether Wellwood, Muirkirk; *Secretary*, Thos. Jackson, Clydesdale Bank, Muirkirk. 2 Medals. 1907.

Banffshire.

10. NORTHERN SEEDS AND ROOTS ASSOCIATION. — *Convener*, Robert Turner, Cairnton, Boyndie; *Secretary*, James Young, 28 Seafield Street, Portsoy. 2 Medals. 1906.

Forfarshire.

11. KIRRIEMUIR. — *Convener*, John Duncan, Muirhouses, Kirriemuir; *Secretary*, Stewart Lindsay, Crawford House, Kirriemuir. 2 Medals. 1807.

Stewartry of Kirkcudbright.

12. CARSPHAIRN. — *Convener and Secretary*, Charles E. Stewart, Carsphairn, Galloway. 2 Medals. 1907.
13. DALRY HORTICULTURAL AND POULTRY. — *Convener*, John M'Adam, Dalry, Galloway; *Secretary*, James Stewart, Dalry, Galloway. 2 Medals. 1907.
14. GALLOWAY DAIRY PRODUCE SHOW. — *Convener*, Sir Mark J. M'Taggart Stewart, Bart., Ardwell; *Secretary*, Patrick Gifford, Solicitor, Castle-Douglas. 2 Medals. 1907.

Lanarkshire.

15. CARNWATH. — *Convener and Secretary*, Thomas Ballantyne, Spittal, Carnwath. 2 Medals. 1907.
16. SHETTLESTON AND CRYSTON. — *Convener*, A. G. Dippie, Longmuir, Bargeddie; *Secretary*, John Watson, 24 St Vincent Place, Glasgow. 2 Medals. 1907.
17. SHOTTS, CALDERWATERHEAD. — *Convener*, John Loudoun, Stane, Shotts; *Secretary*, Alex. Waddell, 32 and 34 Moir Street, Glasgow. 2 Medals. 1907.

Perthshire.

18. MIDDLE DISTRICT OF ATHOLL AND TULLYMET. — *Convener*, James J. Gillespie, Perth; *Secretary*, C. Scott, Dowally Farm, Ballinluig. 2 Medals. 1907.

Renfrewshire.

19. CATHCART AND EASTWOOD. — *Convener*, J. Campbell Murray, Hoggs Castle, Pollokshields; *Secretary*, Robert Mearns, Auldfield Place, Pollokshaws. 2 Medals. 1907.

Selkirkshire.

20. YARROW AND ETTRICK. — *Convener*, J. V. Lindsay, Whitehope, Selkirk; *Joint-Secretaries*, Walter Barrie and John Johnston, Sundhope, Selkirk. 2 Medals. 1907.

Applications from other Districts must be lodged with the Secretary of the Society by 1st November next.

RULES OF COMPETITION.

1. All Competitions must be at the instance of a local Society.
2. The classes for which Medals are granted must be in accordance with the list at page 49. The Committee shall select the classes, and specify them in the Report.
3. A Committee of Management shall be appointed, and the Convener of the Committee must be a Member of the Highland and Agricultural Society.
4. The Money Premiums given in the District must be not less than £2 for each Medal claimed.
5. The Medal for Sheep-Shearing shall always accompany the highest Money Premium.
6. There must not be fewer than three competitors in all the classes.
7. Regarding Reports, despatch of Medals, and application for renewal of Grant, Rules 9, 10, and 11, Section I., will apply.
8. When a grant of Medals has expired, the District cannot apply again for Medals for two years.

PLOUGHING COMPETITIONS.

The Minor Silver Medal will be given to the winner of the first Premium at Ploughing Competitions, provided a Report in the following terms is made to the Secretary, within one month of the Competition, by a Member of the Society. Forms of Report to be had on application :—

FORM OF REPORT.

I, _____ of _____, Member of the Highland and Agricultural Society, hereby certify that I attended the Ploughing Match of the _____ Association at _____ in the county of _____ on the _____ when _____ ploughs competed ; _____ of land were assigned to each, and _____ hours were allowed for the execution of the work. The sum of £ _____ was awarded in the following proportions, viz :—

[Here enumerate the names and designations of successful Competitors.]

RULES OF COMPETITION.

1. All Matches must be at the instance of a local Society or Ploughing Association, and no Match at the instance of an individual, or confined to the tenants of one estate, will be recognised.
2. The title of such Society or Association, together with the name and address of its Secretary, must be registered with the Secretary of the Highland and Agricultural Society, 3 George IV. Bridge, Edinburgh.
3. Not more than one Match in the same season can take place within the bounds of the same Society or Association.
4. All reports must be lodged within one month of the date of the Match, and certified by a Member of the Highland and Agricultural Society who was present at it.
5. A Member can only report one Match ; and a Ploughman cannot carry more than three Medals in the same season.
6. To warrant the grant of the Medal there must have been twelve ploughs in Competition, and not less than Three Pounds awarded in Prizes by the local Society. The Medal to be given to the winner of the first prize.

7. The Local Committee or Society may, if they desire, arrange to let each ploughman have one person to guide the horses for the first two and the last two furrows, but in no case shall ploughmen receive any other assistance, and their work must not be set up nor touched by others. Attention should be given to the firmness and sufficiency of the work below more than to its neatness above the surface.

8. The Local Committee is required to fix the time to be allowed for ploughing the portion of land, and they are recommended that the time be at the rate of not more than ten hours per imperial acre on light land, and fourteen hours on heavy or stony land.

CLASS III.

COTTAGES AND GARDENS.

The following Premiums are offered for Competition in the Parishes after mentioned.

The Premiums are granted for two years.

PREMIUMS FOR BEST KEPT COTTAGES AND GARDENS.

1. Best kept Cottage	.	.	.	.	.	£1	0	0
Second best	.	.	.	.	.	0	10	0
2. Best kept Cottage Garden	.	.	.	.	.	1	0	0
Second best	.	.	.	.	.	0	10	0

RULES OF COMPETITION.

1. Competitions may take place in the different parishes for Cottages and Gardens, or for either separately.

2. The occupiers of Lodges at Gentlemen's Approach Gates and Gardeners' Houses are excluded, as well as others whom the Committee consider, from their position, not to be entitled to compete. The inspection must be completed by the 1st of October. In making the inspection, the Conveners may take the assistance of any competent judges.

3. It is left to the Committee of the District to regulate the maximum annual rent of the Cottages, which may, with the garden, be from £5 to £7.

4. To warrant the award of full Premiums, there must not be fewer than three competitors in each class. If there are less than three competitors in each class, only half Premium will be awarded.

5. A person who has gained the highest Premium cannot compete again.

6. If the Cottage is occupied by the proprietor, the roof must be in good repair; if the roof is thatch, it must be in good repair, though in the occupation of a tenant. The interior and external conveniences must be clean and orderly; the windows must be free of broken glass, clean, and affording the means of ventilation. Dung-hills, and all other nuisances, must be removed from the front and gables. In awarding the Cottage Premiums, preference will be given to Competitors who, in addition to the above requisites, have displayed the greatest taste in ornamenting the exterior of their houses, and the ground in front and at the gables.

7. In estimating the claims for the Garden Premiums, the judges should have in view—the sufficiency and neatness of the fences and walks; the cleanness of the ground; the quality and choice of the crops; and the general productiveness of the garden.

8. Reports, stating the number of Competitors, the names of successful parties, and the nature of the exertions which have been made by them, must be lodged with the Secretary of the Highland and Agricultural Society *on or before the 1st November next*.

9. When a grant of Money has expired, the District cannot apply again for aid for four years.

Parishes desirous of these Premiums must lodge applications with the Secretary *on or before the 1st November next*.

MEDALS FOR COTTAGES AND GARDENS OR GARDEN PRODUCE AND BEE-KEEPING.

1. The Society will give annually one or two Minor Silver Medals to a limited number of local Associations or individuals, who establish Competitions and Premiums for Cottages, Gardens, Garden Produce, or Bee-Keeping. The Medals will be granted for two years.

2. The Medals may be offered in any two of the following sections, *but under no circumstances will the two Medals be given in one of the sections:—*

(1) Best kept Cottage or best kept Cottage and Garden. (One Medal only.)

(2) Best kept Garden. (One Medal only.)

(3) Best Collection of Garden Produce—Flowers excluded. (One Medal only.)

(4) Honey. (One Medal only.)

3. The annual value of each Cottage, with the ground occupied in the parish by a Competitor, must not exceed £15. The occupiers of Lodges at Gentlemen's Approach Gates, and Gardeners in the employment of others, are not entitled to compete.

4. If Competition takes place for Garden Produce, such produce must be *bona fide* grown in the Exhibitor's Garden. He will not be allowed to make up a collection from any other Garden. The produce must consist of Vegetables, or Vegetables and Fruit (not Fruit alone). Flowers are excluded.

5. The Honey must be the produce of the Exhibitor's own Hives.

6. To warrant the award of a Medal, there must not be fewer than three Competitors.

7. Blank forms for Reports of Competitions will be furnished to the Secretaries of the different Districts. These must, in all details, be completed and lodged with the Secretary of the Highland and Agricultural Society as soon as possible after the Show, and in no case later than *1st November*, for the approval of the Directors, against whose decisions there shall be no appeal.

8. When a grant of Medals has expired, the District cannot apply again for aid for two years, and if no competition takes place in a District for two years the grant expires.

9 Applications for these Medals must be made *before 1st November next*.

Aberdeenshire.

1. KINELLAR.—Convener, P. Greig, Willow Cottage, Blackburn, Kinellar; Secretary, Neil Smith, Blackburn, Kinellar. 2 Medals. 1907.

Ayrshire.

2. CUMNOCK.—*Convener*, William Hill, Hartfield, Cumnock; *Secretary*, D. C. Smith, Square, Cumnock. 2 Medals. 1906.

Dumbarton.

3. VALE OF LEVEN AND DUMBARTON.—*Convener*, James Miller, 17 George Street, Bonhill, Alexandria; *Secretary*, Archd. M'Dougall, Church Street, Alexandria. 2 Medals. 1907.

Edinburghshire.

4. CURRIE.—*Convener*, Thos. B. Clark, Newmills, Balerno; *Secretary*, James Millar, Currie. 2 Medals. 1905. (No Show in 1906.)

Haddingtonshire.

5. EAST LOTHIAN.—*Convener*, W. Murray, Solicitor, Haddington; *Secretary*, Thos. Cruickshank, City Bank Chambers, Haddington. 2 Medals. 1906.

Stewartry of Kirkcudbright.

6. KIRKPATRICK-DURHAM.—*Convener*, Dr George Robertson, Kirkpatrick-Durham; *Secretary*, David C. G. Johnston, Kirkpatrick-Durham, Dalbeattie. 2 Medals. 1906.
7. SOUTH OF SCOTLAND BEE-KEEPERS.—*Convener*, John Ross, Barkerland House, Dumfries; *Secretary*, Q. Aird, Hardgate Schoolhouse, Dalbeattie. 2 Medals. 1906.

Lanarkshire.

8. "SIR JOHN STIRLING MAXWELL" GARDENS.—*Convener*,
; *Secretary*, John R. Bain, 9 Holmhead Place, Cathcart. 2 Medals. 1907.

Nairnshire.

9. AULDEARN AND ARDCLACH.—*Convener*, Sir Fred. G. Dunbar of Boath, Bart., Auchnacloich, Nairn; *Secretaries*, A. J. Mackintosh and Angus Bain, Auldearn. 2 Medals. 1907.

Perthshire.

10. KILMADOCK AND KINCARDINE IN MENTITH.—*Convener*, James Smith, Desmond House, Garden; *Secretary*, James Forbes, 51 Main Street, Dunee. 2 Medals. 1907.
11. MENZIES.—*Convener*, Rev. R. G. Dunbar, The Manse, Weem, Aberfeldy; *Secretary*, James Adamson, The Schoolhouse, Dull, Aberfeldy. 2 Medals. 1906. (No award in 1906.)

Stirlingshire.

12. POLMONT.—*Convener*, David Mitchell, Millfield, Polmont; *Secretary*, Hugh Davidson, Polmont Kirk, Polmont. 2 Medals. 1907.

FIRST EDITION.]

NOTE.—From 4th till 12th July all communications should be addressed to the “Secretary’s Office, Showyard, Edinburgh.”

Address for Telegrams—“SOCIETY,” EDINBURGH.

Subject to Orders issued by the Board of Agriculture

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

GENERAL SHOW OF STOCK AND IMPLEMENTS, PRESTONFIELD, EDINBURGH,

ON 9TH, 10TH, 11TH, AND 12TH JULY 1907.

LAST DAYS OF ENTRY.

IMPLEMENTS AND OTHER ARTICLES—Monday, 6th May.

STOCK, POULTRY, AND DAIRY PRODUCE—Friday, 31st May.

No Entry at ordinary fees taken later than those which are received at the Society’s Office, Edinburgh, by first post, or 10 o’clock, on Friday morning (31st May). Post Entries for Cattle, Horses, Sheep, and Swine taken on payment of 10s. additional for each entry (Poultry at double fees) till Wednesday morning (5th June), at the Society’s Office, Edinburgh, at 10 o’clock.

President of the Society.

THE DUKE OF BUCLEUCH AND QUEENSBERRY, K.G., K.T.

Chairman of the Board of Directors.

DAVID WILSON, Esq., D.Sc., OF CARBETH.

Convenor of the Local Committee.

SIR JAMES H. GIBSON-CRAIG OF RICCARTON, BART.

The District connected with the Show comprises the Counties of Edinburgh, Haddington, and Linlithgow.

REGULATIONS.

GENERAL CONDITIONS.

1. The Competition, except where otherwise stated in the Premium List, is open to Exhibitors from all parts of the United Kingdom.
2. Every Lot must be intimated by a Certificate of Entry, lodged with the Secretary not later than Monday, 6th May, for Implements and other

Articles, and Friday, 31st May, for Stock, Poultry, and Dairy Produce.
No Entry taken at ordinary fees later than those which are received at the Society's Office by first post, or 10 o'clock, on Friday morning, 31st May. Post Entries for Cattle, Horses, Sheep, and Swine taken on payment of 10s. additional for each entry (Poultry at double fees) till Wednesday morning (3th June), at the Society's Office, Edinburgh, at 10 o'clock. Printed forms of Entry will be issued on application to the Secretary, No. 3 George IV. Bridge, Edinburgh. Admission Orders for Exhibits and Attendants will be forwarded to Exhibitors, by post, previous to the Show.

*Licences
for moving
Stock.*

3. This Premium List is published and the Show will be held subject to any Orders that may be issued by the Board of Agriculture or Local Authorities. Any licences that may be required for the movement of Stock into or away from the Show must be obtained by Exhibitors. For licences for admission of Stock to the Show, application should be made to David Lyon, Esq., Depute Town Clerk, Edinburgh.

4. No Entry can be received or recorded unless it is accompanied by the necessary fees, and complies fully with the Regulations in the Premium List.

*Particu-
lars of
Entries.*

5. The Schedule of Entry must be filled up so far as within the knowledge of the Exhibitor. The Society shall have power at any time to call upon an Exhibitor to furnish proof of the correctness of any statement in his entry.

6. The name of the Breeder, if known, must be given, and if the Breeder is not known, a declaration to that effect, signed by the Exhibitor, must be made on the Entry Schedule, and no pedigree will be entered in the Catalogue when the Breeder is unknown.

*No substi-
tution of
Animals.*

7. All animals, except calves, foals, and lambs shown with their dams, must be entered in the classes applicable to them, and cannot be withdrawn after entry, or other animals be substituted in their place.

*One Class
only.*

8. For prizes given by the Society, no animal shall be allowed to compete in more than one class, or to compete in any class except that prescribed for animals of its pedigree and description; but this Rule does not apply to the Jumping and Driving Competitions.

Ownership.

9. All stock exhibited at the Show, except where otherwise stated in the Premium List, must be from the time of entry to the date of the competition the *bona fide* property of the Exhibitor in whose name it is entered.

*Responsi-
bility for
Entries.*

10. Exhibitors are alone responsible for the accuracy and eligibility of their entries. The recording of an entry or the admission of the exhibit to the Showyard will not relieve the Exhibitor of this responsibility. The entry-fee paid for an animal entered in a class for which it is not eligible is not returnable.

*Society not
liable.*

11. The Society shall not be liable for any loss or damage which Stock, Poultry, Dairy Produce, Implements, or other articles may sustain at the Show, or in transit.

*Disquali-
fied Ex-
hibitors.*

12. The Society reserve to themselves the right of refusing, cancelling, or prohibiting the exhibition of entries from any person who, after 1st January 1904, has been expelled from the membership of any Agricultural or Dairy Society, or who may have been prohibited, suspended, or disqualified from making entries or exhibiting at the Show or Shows of any Agricultural or Dairy Society or Breed Society in consequence of having attempted to obtain a Prize by giving a false Certificate, or by other unfair means, or who is under exclusion from any Breed Society for fraudulent practices.

*Animal
disquali-
fied.*

13. When an animal has previously been disqualified by the decision of any Agricultural Society in the United Kingdom, such disqualification shall attach, if the Exhibitor, being aware of the disqualification, fail to

state it, and the grounds thereof, in his entry, to enable the Directors to judge of its validity.

14. Any artificial contrivance or device of any description found on or proved to have been used on an animal, either for preventing the flow of milk or for any other improper purpose, will disqualify that animal from being awarded a Premium, and the Owner of said animal may be prohibited from again entering Stock for any of the Society's General Shows, for such a period as the Directors may see fit. *Tampering with Animals.*

15. The Society further reserve to themselves the right of refusing any entries they may think fit to exclude, or to cancel any entry made, or to prohibit the exhibition of any entry. *Rejecting Entries.*

16. Stock entered for competition, and actually in the Show, is subject to the control and under the orders of the Stewards, Secretary, and other Show officials of the Society, and such stock may not be withdrawn from competition without the consent of the Stewards or Secretary. *Control of Exhibits.*

17. Persons making insulting remarks to, or in any way unduly interfering with, the Judges, Stewards, or other officials while in the performance of their duties, and all Exhibitors or others in charge of stock while in the judging rings refusing to accept or display tickets, rosettes, &c., awarded by the Judges, and handed to them by the Stewards or other officials, or tearing up tickets, rosettes, &c., so awarded and handed to them, or of any similar conduct, shall be considered guilty of misconduct, and shall be dealt with under these rules. *Improper Conduct.*

18. All persons in charge of stock or other exhibits, and all persons admitted into the Showyard, shall be subject to the rules of the Society, and shall obey the orders of the Stewards, Secretary, and other officials of the Society. Exhibitors shall be answerable for the conduct of their servants or representatives. *Subject to Orders.*

19. The Stewards and other officials have power to enforce the regulations of the Society in their different departments. *Power of Officials.*

20. A protest having reference to exhibits at the Show may be lodged by any person having interest. Protests having reference to competitions which take place on the first day of the Show must be lodged in writing with the Secretary at his Office in the Showyard not later than 9 A.M. on Wednesday, the second day of the Show, and parties must be in attendance at the Secretary's Office in the Showyard at 9.30 A.M. that day, when protests may be disposed of. Protests relating to competitions taking place after the first day of the Show must be lodged before 5 P.M. on the day on which the particular exhibition takes place. Each protest must state specifically the grounds of objection, and must be accompanied by a deposit of £2, 2s., which deposit may, if the objection be proved frivolous to the satisfaction of the Directors, be forfeited. Protests may be lodged at any time by Directors, and in this case no deposit will be required. Protests will be heard and determined by the Directors. *Protests.*

21. The violation of any one of the regulations, or disobedience of the orders of the Directors, Stewards, Secretary, or other officials of the Society, shall render the offending person liable to the forfeiture of all premiums awarded to him, or of such a portion as the Directors may ordain, and also liable to be expelled from the membership of the Society, and disqualified from again, or for a certain number of years, exhibiting at the Shows of the Society, or to have his case disposed of by fine or otherwise as the Directors may determine. *Penalties for Offences.*

22. The decision of the Directors shall, in every matter arising at or in connection with the Show, be final; and every person present at the Show, whether as a Judge, Exhibitor, Visitor, or otherwise, shall be deemed thereby to have agreed to refer the subject-matter of such decision to the final determination of the Directors, to the exclusion of all Courts of Law. *Final Authority.*

- Intimating Decisions.* 23. All decisions under these rules may, along with the names and addresses of the persons against whom such decisions have been pronounced, be communicated by the Secretary of this Society to the Secretaries of all Agricultural or Dairy Societies holding open Shows in the said United Kingdom, and to the Secretaries of all Breed Societies in said United Kingdom, and may be published in the Annual Reports of this Society, and in such newspapers or journals as the Directors may determine; and every Exhibitor competing at the Show, and every person present at the Show, whether as a Director, Member of Committee, Steward, Judge, Exhibitor, Visitor, or otherwise, shall be deemed thereby to have consented to such communication and publication.
- Former Winners.* 24. An animal which has gained a first Premium, or which subsequently becomes entitled to a first Premium, at a General Show of the Society cannot again compete in the same class, notwithstanding any alteration in the heights stated for such class, but may be exhibited as Extra Stock.
- Herd-books.* 25. Shorthorn, Aberdeen-Angus, Galloway, and Highland cattle must be entered in the herd-books, or the Exhibitor must produce evidence that his animal is eligible to be entered therein.
- Height of Horses.* 26. All Horses or Ponies entered in classes in which a particular height is stated shall before being judged be measured with their shoes on. No subsequent measuring or alteration of shoes will be permitted.
- Overfeeding.* 27. Breeding Stock must not be shown in an improper state of fatness, and the Judges are requested not to award Premiums to overfed animals; and no Cattle or Sheep which after the age of twelve months have been exhibited as Fat Stock at any Show are eligible to compete in the Breeding Classes for the Society's Prizes.
- Stuns.* 28. Aged Bulls and Stallions must have had produce, and, along with two-year-old Bulls, three-year-old Colts, and two-shear and aged Tups, have served within the twelve months immediately preceding the Show.
- Cows.* 29. Except as may be otherwise specially provided in this Premium List, cows of all breeds (other than Ayrshire) must have had a calf within nine months previous to the Show, and when exhibited must be in milk. Animals of any age that have had a calf must be shown as Cows.
- In-calf Heifers.* 30. Two-year-old Heifers of the Shorthorn, Aberdeen-Angus, and Galloway breeds, two-year-old Yeld Ayrshire Heifers, and three-year-old Highland Heifers, must be in calf when exhibited, and the Premiums will be withheld till birth be certified, which must be within 9 months after the Show.
- Mares.* 31. A Mare entered in a class for "Mares with foal at foot" must have produced a foal after 1st January of the year of the Show, must have regularly nursed her own or another foal, and must have the foal with her in the Show. If the mare's own foal is alive it must be the foal shown with the mare. In the case of a Mare that has not foaled before the Show, or whose foal has died, she shall, if not in milk, be eligible without further entry to compete among the Yeld Mares. Agricultural Yeld Mares must produce a foal within 12 months from the first day of the Show. A Mare in a class for "Mares or Geldings" may or may not have had a foal in the year of the Show, but shall not have her foal exhibited with her, nor be in milk at the time of the Show.
- Calves and Foals.* 33. With reference to Regulation 30, birth of a live or full-time calf must be certified; and in regard to Regulation 31, birth of at least a nine months' foal; or in the case of the death of the dam, a Veterinary Surgeon's certificate must be produced certifying that at the time of death the animal was so far advanced with calf or foal that if it had lived it would have produced a calf or foal within the periods stated in Rules 30 and 31. Certificates of calving required by the foregoing Regulations must reach the office of the Secretary within ten months of
- Calving and Foaling Certificates.*

the last day of the Show; foaling certificates within thirteen months of the last day of the Show. In default of this, the animal will be regarded as having failed to fulfil the Regulations, and the prize will therefore pass to the animal next in order of merit or be forfeited.

33. Except when otherwise provided, the awards of Special Prizes shall not be subject to the Regulations as to calving and foaling. *Special Prizes.*

34. The Premiums awarded, except those withheld till birth of calf or foal is certified, will be paid as soon after the Show as practicable, and, with the exception of the Tweeddale Gold Medal, Special Cups, and Medals, may be taken either in money or in plate. *Payment of Prizes*

35. In the classes for Hunters, Judges are empowered to transfer to the proper classes horses which, in regard to weight-carrying, are in their opinion entered in the wrong classes. *Hunters.*

36. Judges are particularly requested to satisfy themselves, as far as possible, regarding the soundness of all Horses before awarding the Prizes, and to avoid giving Prizes to animals showing symptoms of hereditary diseases. The Judges may consult the Society's Veterinary Surgeon if they deem it expedient. No protests on veterinary grounds will be received. *Soundness of Horses*

37. All Ewes must have reared lambs in the year of the Show; and Ewes of the Blackfaced and Cheviot breeds must be in milk, and have their lambs at foot. *Ewes.*

38. Sheep must have been clipped bare after 1st January of the year of the Show, no part of the animal to be clipped prior to that date. This Rule does not apply to Cheviot sheep. *Clipping.*

39. Sows must have produced a litter of pigs in the year of the Show, prior to the opening day. Pigs must belong to the same litter, and be uncut. *Sows.*

40. In Poultry the Aged Birds must have been hatched previous to, and Cockerels and Pullets in, the year of the Show. *Poultry.*

41. Railway Certificates for Stock and Implements are issued to Exhibitors before the Show along with their Tickets of Admission, one Certificate for the outward and another for the return journey being sufficient for each Exhibitor for any number of exhibits. *Railway Passes.*

42. Poultry and Stock will be admitted on Monday, the day before the opening of the Show, and, with the exception of Horses, must be in the Yard before 12 o'clock that night. Horses must be in before 8 o'clock on the morning of Tuesday, except those entered in classes for which other times for arrival are elsewhere stated in this List. Judging begins at 10 A.M. on Tuesday. Exhibited on Tuesday, Wednesday, Thursday, and Friday. Stock may be admitted on the Saturday preceding the Show, but only by sending two days' prior notice to the Secretary. *Admission of Stock.*

43. Horses and Cattle must be paraded at the times stated in the Programme of the Show, and when required by the Stewards, and under their direction. In Parade, Horses must be ridden or led as provided in their respective classes. Prize and commended Cattle and Horses will receive two rosettes each, which must be attached to the head of the animal, one on each side. Attendants must be beside their animals *twenty minutes before the hour of Parade*, and be ready to proceed to the ring immediately on receiving the order of the Stewards. Infringement of this Rule, or failure of any attendant to obey the orders of the Society's officials, will render the Exhibitor liable to a fine of 20s. for each separate infringement or act of disobedience, and to the forfeiture of any or all of the Prizes awarded to him at this Show. *Parades.*

44. Exhibitors shall be answerable for all acts, whether committed by themselves, their servants, or others in charge of their Stock, and shall be responsible for the condition of their animals during the whole time they remain in the Showyard. *Responsibility of Exhibitors.*

- Moving from stalls.* 45. No animal shall be taken out of its stall after 10 A.M. during the Show except by order of the Stewards, or with permission of the Secretary.
- Washing Cattle.* 46. Cattle shall not be taken out of their stalls to be washed after the Judging has been commenced. Cattle must not be washed beside the Judging Rings. Those infringing this Rule shall be liable to a fine of 10s.
- Snapping prohibited.* 47. Soap or other adhesive material must not be used in dressing cattle or horses. Infringement of this Rule will render the animal upon which the material is used liable to be disqualified.
- Accommodation for Animals.* 48. Loose-boxes will be provided for Stallions, three-, two-, and one-year-old entire Colts; for two- and one-year-old Fillies, and for Mares with foals at foot; closed-in stables for all the other Horses, and covered accommodation for the whole of the other Live Stock. In no case, either in the ordinary classes or "Extra Stock" will a box be provided except for the classes here specified. Stalls (floored) for attendants on Cattle, Horses, and Sheep will be provided at same rates as those charged for Stock. Exhibitors requiring the boxes, stalls, or pens for their animals to be floored must give instructions to the Showyard contractors, Messrs Macandrew & Co., Showyard, ten days before the Show opens. (For charges, see Rule 70.)
- Floored stalls for Animals.* 49. Bulls must be secured by nose-rings, with chains or ropes attached, or with strong halters and double ropes. All Cattle, other than Highland Cattle, must be tied in their stalls.
- Securing Cattle.* 50. During the time the Show is open to the public no rug shall be hung up so as to conceal any animal in a horse-box or stall, except with the special permission of the Steward of that department.
- Concealing Animals.* 51. Five days' supply of straw, hay, grass, and tares will be provided free by the Society. Any additional fodder or other kinds of food required will be supplied at fixed prices in the Forage-yard. Any servant removing bedding from an adjoining stall will be fined in double the amount taken. Exhibitors may fetch their own cake or corn to the Yard, but not grass, tares, hay, or straw. Coops, food, and attendance for Poultry will be provided by the Society.
- Fodder.* 52. Servants in charge of Stock must bring their own buckets or pails, and a piece of rope or sheep-net to carry their forage. Mangers, sheep and pig troughs, will be provided.
- Feeding appliances.* 53. Sawdust must not be used as bedding for Stock.
- Sawdust.* 54. As the command of water in the Yard is limited, it is particularly requested that waste be avoided.
- Water.* 55. No lights allowed in the Yard at night, and Smoking is strictly prohibited within the Sheds. Those infringing this Rule shall be liable to a fine of 10s.
- Lights and Smoking.* 56. Cattle, Sheep, Swine, or Poultry cannot be removed from the Yard till 5 P.M. on Friday, the last day of the Show, except on certificate by the Veterinary Surgeon employed by the Directors, countersigned by the Steward of the department or the Secretary.
- Removal of stock.* 57. At the close of the Show on Tuesday, Wednesday, and Thursday, horses may be withdrawn for the night on a deposit of £5 for each animal, which shall be forfeited, along with any prize money it may have gained, if the animal is not brought back. They must return between 7 and 7.30 the following morning, and those not in before 8 shall forfeit 10s. Horse passes to be applied for at the Secretary's Office between 5 and 6 P.M. on Tuesday, and the deposit, unless forfeited in whole or in part, will be returned between 12.30 and 2.30 on Friday.
- Withdrawal of horses over-night.* 58. When the Stock is leaving the Yard, no animal is to be moved till ordered by those in charge of clearing the Yard. Those transgressing this Rule shall be liable to a fine of 10s., and to be detained till all the other Stock is removed.
- Order in removal.*

59. Poultry may be penned before the opening and removed at the close of the Show by Exhibitors themselves or their representatives. In the event of neither the Exhibitor nor an authorised representative of the Exhibitor being present to pen or remove Poultry, the birds will be penned and removed by men hired and paid by the Society, but this will be done on the understanding that the men are hired to do the work on behalf of Exhibitors, and solely at their risk, and that the Society will be in no way responsible for expenses incurred or loss of or injury to Exhibits by errors or accidents in penning, despatching, or conveying Exhibits. *Penning and removing Poultry.*

60. On the opening day of the Show the Poultry Shed will be closed to the public during the Judging. On the last day of the Show the Poultry Shed will be closed to the public at 4 P.M.; at 5 P.M. Exhibitors or their representatives will be admitted to the Shed to remove Exhibits, provided the Exhibitor has, *not later than 11 A.M. on the last day of the Show*, given written notice to the Secretary to the effect that the Exhibitor or the Exhibitor's representative will attend at the Poultry Shed at 5 P.M. to remove the birds. *Closing of Poultry Shed.*

JUDGING STOCK AND POULTRY.

61. On Tuesday, the first day of the Show, no person will be admitted, except Servants in charge of Stock, till 8 A.M., when the Gates are opened to the public. *Opening Gates.*

62. The Judges will commence their inspection at 10 A.M. The spaces reserved for the Judging will be enclosed, and no encroachment shall be permitted. *Judging.*

63. In no case shall a Premium be awarded unless the Judges deem the animals to have sufficient merit; and where only one or two lots are presented in a section, and the Judges consider them unworthy of the Premiums offered, it shall be in their power to award a lower prize. *Insufficient merit.*

64. In addition to the Premiums, the Judges are authorised to award three Commendations in each section, if the entries are numerous and the animals of sufficient merit. These Commendations consist of—Very Highly Commended, Highly Commended, and Commended. *Commendations.*

65. Ayrshire Cows which have not calved before the Show, whether entered in a class for Cows in Milk or for Cows in Calf, shall be judged along with the Cows in Calf, and Ayrshire Cows or Heifers which have calved before the Show—in whichever of the classes entered—shall be judged along with Cows in Milk, subject to complying with the conditions of the Milk Test prescribed in Rules 65a and 65b. *Ayrshire Cows and Heifers.*

65a. Ayrshire Cows in Milk must be in their stalls in the Showyard before 6 P.M. on the Sunday preceding the opening of the Show, must be milked dry, to the satisfaction of the Society's Officials, between 6 and 7 o'clock on that evening, and on the following day—the day before the opening of the Show—be milked at 6 A.M. and 6 P.M. in the presence of the Society's Official, who will weigh each cow's milk at each of these two milkings, and record the weights in a book provided for the purpose, the Official also entering in the same book the time occupied in milking each cow at each of the two milkings. A period of fifteen minutes is allowed for milking each aged cow; no time limit is imposed for milking three-year-old cows. *Judging Ayrshire Cows.*

65b. Aged Cows whose yield of milk at these two milkings does not equal or exceed 36 lb., and three-year-old cows whose yield at the two milkings does not equal or exceed 27 lb., will be disqualified for competing at the Show. Cows that may calve in the Show will not be eligible to compete unless they qualify in the foregoing Milk Test. *Milk Test.*

66. Attending Members will accompany each section of the Judges. It will be the duty of Attending Members to bring the animals out to *Attending Members.*

the Judges and to see that no obstruction is offered to them, and that the space reserved for them is not encroached upon; to ticket the prize animals; to send the Nos. of prize animals to the Award Lectern at the Members' Pavilion; to assist the Judges in completing their return of awards; and should any difficulty arise, to communicate with the Stewards or Secretary.

67. It shall not be competent for any Exhibitor, nor for his Factor or Land-Steward, to act as a Judge or attending Member in any class in which he is competing.

DAIRY PRODUCE.

68. Dairy Produce will be received in the Showyard on Monday, the day before the opening of the Show, and till 8 A.M. on Tuesday, the first day of the Show. Judged at 10 A.M. on Tuesday. Exhibited Tuesday, Wednesday, Thursday, and Friday.

69. Dairy Produce must have been made on the Exhibitor's farm in the year of the Show. No Exhibitor shall show more than one lot in each class. No lot can be removed from the Yard till 5 P.M. on Friday, the last day of the Show. The Society undertakes no responsibility for the receipt or despatch of exhibits, nor for the loss of exhibits, nor for any injury they may sustain during the Show.

STALL RENT (INCLUDING ENTRY FEE).

70. The following rates (which include Entry Fees and Stall Rent) shall be paid by Exhibitors when making their Entries:—

	Members.	Non-Members.
	s. d.	s. d.
Stalls for Cattle, each	15 0	25 0
Ayrshire Cows in milk and in calf, Classes 28, 29, and 30 (enclosed stalls)	25 0	35 0
Boxes for Horses in Classes 35, 36, 37, 42, 57, 58, 59, 63, and 64	30 0	40 0
Boxes for Horses in Classes 38, 45, 46, 47, 48, 49, 61, 62, 65, 66, 67, 68, 72, 74, 75, 77, 78, and 79	22 6	32 6
Stalls for Horses in Classes 39, 40, 41, 43, 44, 50, 51, 52, 53, 54, 55, 56, 60, 82, and 83	20 0	30 0
Stalls for Ponies in Classes 69, 70, 71, 73, 76, 80, and 81	15 0	20 0
Shed Accommodation for Machines for driving competitions, each	5 0	10 0
Sheep or Swine, per pen	10 0	15 0
Poultry, each entry	2 0	3 0
Dairy Produce, each entry	4 0	6 0
Covered Booths for offices, 9 feet by 9 feet	70 0	100 0
Newspaper offices	£2. 10s.	
Attendants' Stalls—Rates as above—See Rule 71.		

Floored Stalls.—Exhibitors desiring the boxes, stalls, or pens for their animals to be floored can have this done by, ten days before the opening of the Show, giving instructions to the contractors, Messrs Macandrew & Co., the Showyard, to whom the following charges for flooring have to be paid: Horses, 10s. each; Ponies, Cattle, Sheep, and Swine, 7s. each.

Entries in more than one Class.—In the case of animals entered in more than one class, the entry fee, whether for Post or other Entries, shall be five shillings for each class after the first. This does not apply to the Jumping Competitions.

EXTRA STALL FOR ATTENDANTS.

71. Exhibitors of Stock shall be entitled to take an extra Stall or Box for the accommodation of their attendants, but they must state when making their Entry that the Stall or Box is to be used for that purpose, and remit rent, which is at the same rate as stated above for the particular class of stock. They must also state next to which animal they wish the attendant's accommodation to be placed.

IMPLEMENTS AND OTHER ARTICLES.

72. Implements will be received in the Yard from Tuesday, 2nd July, Admission till 5 o'clock on the afternoon of Monday, 8th July. Exhibited Tuesday, Wednesday, Thursday, and Friday. The Schedule of Entry must be filled up so far as within the knowledge of the Exhibitor, and prices must be stated.

73. No Money Prizes or Medals, except when specially offered, will be given by the Society for Implements of any kind. *Premiums*

74. Agricultural Implements, and Implements and collections of articles not Agricultural, will be received for Exhibition, but the Secretary is entitled to refuse Entries from dealers in articles not deemed worthy of Exhibition. *Refusing Entries.*

75. In order to encourage exhibits of Agricultural Implements from operative Blacksmiths and Carpenters in the district of the Show, open space will be provided for these in some less prominent part of the Yard at a charge of 10s. for space 10 feet wide and 20 feet deep. *Local Operatives.*

76. Every article to be exhibited must be entered on the Society's Entry Form. Any article not so entered that is taken to the Show is liable to be ordered out of, or removed from, the Showyard, or confiscated to the Society. Exhibitors infringing this rule are moreover liable to a fine of £1. *Articles not entered.*

77. "Cheap-Jacks" are not admitted to the Showyard. The selling of goods by auction, shouting, and other behaviour calculated to annoy visitors or Exhibitors, are strictly forbidden. Exhibitors infringing this Regulation are liable to a fine of £1, and to have themselves and their goods ordered out of, or removed from, the Showyard, or to have their goods confiscated to the Society. *Selling by auction and noisy behaviour forbidden.*

78. The articles of each Exhibitor must be all placed in one stand, except Implements in motion, and must not on any account extend beyond the allotted space. No article shall be moved out of its stand, or the stand dismantled, till the termination of the Show, at 5 P.M. on Friday. Those infringing this Rule shall be liable to a fine of 10s. *Placing Exhibits. Removing Exhibits.*

79. When the ground requires to be broken, the turf must be carefully lifted and laid aside, and the surface must be restored to the satisfaction of the Society, and at the expense of the Exhibitor. Failing this being done, the Society shall be at liberty to restore the ground and charge the cost to the Exhibitor. *Restoring Turf.*

80. Exhibitors must arrange their own articles within the space allotted to them before 9 o'clock on Tuesday, and to the satisfaction of the Stewards in charge of the Implement Yard. Exhibitors are prohibited from subletting space allotted to them, and from displaying the name of any other firm on their Stand. All signs, except signs on gables, must face the front only. Nails must not be driven into the canvas. *Arranging Exhibits. Signs.*

81. Exhibitors are not allowed to distribute handbills anywhere in the Yard except at their own Stand; and they must not for this or any other purpose encroach upon the adjacent alleys or open spaces. *Handbills.*

- Sweeping Stands, &c.** 82. Exhibitors are required to have their Stands and the portions of the alleys immediately adjoining them swept up before eight o'clock on each morning of the Show.
- Fuel.** 83. All Machines requiring steam or fire must be entered as such in the Certificate, and will be placed in the Motion Yard. *Coke only shall be used in all cases where fire is required.* Coal shall not be used at any time in the Showyard. Those infringing this Rule shall incur a penalty of £5.
- Steam Engines.** 84. No Steam Engine shall be driven in the Yard at a greater speed than 4 miles an hour. Traction Engines shall not be used in conveying Exhibits or other goods into, from one place to another in, or out of the Showyard. Without *written* permission by the Steward of Implements or Secretary, Motor Waggon shall not be used in conveying goods into or out of the Showyard.
- Motors.** 85. Locomotive and Traction Engines and other Machines must not be moved from their places without permission of the Secretary or Stewards, and must not leave their stands till 6 P.M. on Friday.
- Designing Imple-ments.** 86. There must be attached to each Implement, when forwarded to the Show, a label bearing the Exhibitor's name, and that of the Implement, as well as the number of the Exhibitor's stand.
- Photographing in Show-yard.** 87. The carriage of all Implements must be prepaid.
88. Photographing in the Showyard is not permitted, except by photographers having a Stand in the Showyard or holding a "Photographer's Ticket." The "Photographer's Ticket" may be had from the Secretary, price 15s. It admits the holder to the Show when open to the public, and entitles him to photograph in the Showyard, subject to arrangements made by the Stewards.
- Covered Booths.** 89. Covered Booths for Offices (9 feet by 9 feet), purely for business, not for exhibition of goods, can be had for £23, 10s to Members and £5 to Non-Members.
- Exhibitors' and Attendants' Tickets.** 90. Each Exhibitor in the Implement Department who is not a Member of the Society will receive one free Ticket of Admission to the Showyard for himself or a member of his firm, and will receive, in addition, for the use of attendants employed by him at his Stand, two Tickets of Admission for each complete ten feet of shedding in the Motion Yard, and one Ticket for each complete ten feet of shedding in the other sections. No additional Free Tickets can be issued in any circumstances whatever. Additional Attendants' Tickets, not more than five for any one Exhibitor, may be purchased at 5s. each.
- Tickets to be filled up and signed.** 91. The Tickets of Admission for Exhibitors and Attendants referred to in the foregoing Regulation will (about fourteen days prior to the Show) be issued to the Exhibitors in blank, with the number of the Exhibitor's Stand. The name of the person for whom each ticket is intended must be written on it before it is used. Each person holding a Free Ticket of Admission must sign his or her name on the back thereof, and must also, when required, sign his or her name in the book at the Entrance Gate. Exhibitors' attendants are strictly cautioned not to lend or transfer their Tickets, which can be used only by the persons whose names they bear, and who must be *bona fide* acting for, or employed by, the Exhibitor. No Ticket is transferable. An Exhibitor is liable to a fine of £1 for each case of transfer or other improper use of a Ticket issued to himself or employee.
- Tickets not Transferable.** 92. The following are the arrangements for the admission of Supplies (Refreshments or other goods) for Stand-holders during the Show: Messenger on foot (with or without hand-barrow) with supplies, admitted by Special Ticket; price for one admission, 1s., for the four days, 3s. Horse vehicle and driver with supplies, admitted by Special Ticket; price for one admission, 1s., for the four days, 5s. These Special Tickets may be had from the Secretary. Horse vehicles, with supplies, admitted throughout the day on the first day of the Show; on the other three days
- Improper use of Tickets.**
- Admission of Supplies for Stand-holders.**

they will not be admitted between the hours of 10 A.M. and 5 P.M. except by written permit from the Secretary.

93. The riding of Cycles in the Showyard is prohibited.

Cycles.

94. The Society reserves the right to allot to applicants for Stands either the whole or part of the space they ask for.

Allocation of space.

95. The Society will not be responsible for any accident that may occur from the machinery belonging to any Exhibitor; and it is a condition of entry that each Exhibitor shall hold the Society harmless, and indemnify it against any legal proceedings arising from any accident caused by his machinery.

Accidents.

96. The giving of Alcoholic Drinks to visitors at Stands in the Show is strictly prohibited.

Alcoholic Drinks.

STALL RENT.

97. Ground to be taken in spaces of 10 feet frontage by 20 feet deep, except in Motion Yard, which is to be 10 feet or any larger amount of frontage by 50 feet deep. Exhibitors must take their space in one or other of the following Sections. Space is not let partly covered and partly open.

98. Rates for space, payable by Exhibitors when making their Entries:—

	Members.	Non-Members.
Space without Shedding, 20 ft. deep, per 10 ft.	£1 5 0	£1 15 0
Special Space, without Shedding, 20 ft. deep, per 10 ft.	2 0 0	2 10 0
Shedding, 20 ft. deep, 7 ft. to eave, per 10 ft.	1 5 0	1 15 0
Shedding, 20 ft. deep, 7 ft. to eave, <i>boarded at back</i> , per 10 ft.	1 12 0	2 2 0
Special Shedding, 20 ft. deep, 7 ft. to eave, per 10 ft.	2 0 0	2 10 0
Special Shedding, 20 ft. deep, 7 ft. to eave, <i>boarded at back</i> , per 10 ft.	2 7 0	2 17 0
Space in Motion Yard, without Shedding, 50 ft. deep, per foot	0 5 0	0 8 0
And with Shedding, 20 ft. deep, 10 ft. to eave, per foot	0 7 0	0 10 0
Covered Booths for offices, 9 ft. by 9 ft., each	3 10 0	5 0 0
Newspaper offices, each	£2, 10s.	

ADMISSION OF THE PUBLIC.

The public will be admitted daily at 8 A.M. Judging begins on Tuesday at 10 A.M. The charges for admission to the Yard will be—Tuesday, from 8 A.M. till 5 P.M., 5s. Wednesday, from 8 A.M. till 5 P.M., 3s.; from 5 P.M. till 8 P.M., 1s. Thursday, from 8 A.M. till 5 P.M., 2s.; from 5 P.M. till 8 P.M., 1s. Friday, from 8 A.M. till 5 P.M., 1s.

ADMISSION OF MEMBERS AND EXHIBITORS.

On exhibiting their "*Member's Ticket*," which is strictly not transferable, Members of the Society are admitted free to the Showyard and to the Enclosures and Stands around the Large Ring, excepting the Reserved Seats in the Grand Stand, and such other parts as may be reserved for any special purpose. Tickets will be sent to all Members residing in the United Kingdom whose addresses are known, and on no account will duplicates be issued. All Members not producing their tickets must pay at the gates, and the admission money will not on any account be returned. Tickets must be signed by Members before being presented at the gate.

Tickets of admission to the Showyard are sent to Exhibitors of Stock, Poultry, and Dairy Produce (not Members) whose Entry Fees amount to not less than 10s.

For Exhibitors of Implements and their assistants tickets are issued as provided in the Regulations for Implements.

RESERVED SEATS IN GRAND STAND.

For Charges, apply to Secretary.

VARIOUS.

Placards, except those of the Society, are prohibited both inside the Showyard and on the outside of the Boundary Fence, with the exception of those belonging to Exhibitors, whose right is confined to their own stalls. No newspapers or any other article allowed to be carried about the Yard for sale or display. No strolling bands or musicians admitted.

No Carriages or Equestrians admitted without special leave from the Directors, and then only for Invalids. Bath-chairs may be brought in.

Premium Lists, Regulations, and Certificates of Entry may be obtained by applying at the Secretary's Office, No. 3 George IV. Bridge, Edinburgh.

All Communications should be addressed to JAMES MACDONALD, Esq., Secretary of the Highland and Agricultural Society of Scotland, No. 3 George IV. Bridge, Edinburgh. From 4th to 12th July to the Secretary's Office, Showyard, Prestonfield, Edinburgh.

Address for Telegrams—"SOCIETY," EDINBURGH.

LAST DAYS OF ENTRY.

IMPLEMENTS AND OTHER ARTICLES—Monday, 6th May.

STOCK, POULTRY, AND DAIRY PRODUCE—Friday, 31st May.

No Entry at ordinary fees taken later than those which are received at the Society's Office, Edinburgh, by first post, or 10 o'clock, on Friday morning (31st May). Post Entries for Cattle, Horses, Sheep, and Swine taken on payment of 10s. additional for each entry (Poultry at double fees) till Wednesday morning (5th June), at the Society's Office, Edinburgh, at 10 o'clock.

RAILWAY ARRANGEMENTS.

The Railway Companies will be furnished with a list of the Exhibitors of Stock and Implements, after the 18th June. All applications for horse-boxes and trucks, and for information as to arrangements of Special Trains, must be made by the Exhibitors themselves to the Stationmaster where their stock is to be trucked.

The arrangements made by the Railway Companies for the conveyance of Live Stock and Goods to and from the Show are indicated below, but exhibitors are recommended to apply to the respective companies for full particulars:—

1. Live Stock and Goods to the Show to be charged ordinary rates.
2. Live Stock and Goods from the Show, if sold, to be charged ordinary rates.
3. Live Stock and Goods from the Show, if unsold, to be carried at half rates back to the station whence they were sent, at owners' risk, on surrender of a certificate from the Exhibitor to the effect that they are really unsold; failing surrender of such certificate, ordinary rates must be charged. The reduction to half rate is to be allowed only when the animals or goods are returned by the same route as that by which they were conveyed to the Show. The minimum charge for Stock returned at half rates will be one-half the ordinary minimum.

If the unsold Live Stock which was carried on the outward journey by Passenger Train in horse-boxes be required to be returned by Goods Train in cattle trucks, half the Goods Train rates must be charged.

If the unsold Live Stock which was carried on the outward journey by Goods Train in cattle trucks be required to be returned by Passenger Train in horse-boxes, half the Passenger Train rates must be charged.

4. Horses and Cattle, when sent for exhibition from one Agricultural Show to another, in another part of the country, are charged the ordinary single rates in respect of each journey, from point to point, up to the last station to which they are sent for exhibition. If remaining unsold when returned from the

latest Show to the originating or home station, they are—on surrender of the necessary certificates—charged half rates, provided such return journey is made by the line of the company by whose route it was conveyed on the outward journey, and provided the railway traversed was covered on the outward journey. If conveyed by Goods Train, Unsold Live Stock transferred from one Agricultural Show to another in another part of the country must be charged ordinary rates.

5. Unsold goods, previously carried by railway, transferred from one Agricultural Show to another, in another part of the country, will be conveyed at half rates at owners' risk, on production of certificate from the Exhibitor to the effect that they are unsold; failing production of such certificate, ordinary rates will be charged. This applies only to Goods Trains.

6. Poultry to be charged ordinary rates both ways, and will not be accepted for conveyance unless the carriage charges are prepaid.

7. Horse-boxes, or other Passenger Train vehicle, will not be provided for the carriage of Live Stock sent by Goods Train and invoiced at Goods Train rates. *For rates for Horse-boxes by Passenger and Special Trains, apply to the Railway Companies.*

8. Provender conveyed to Agricultural Shows with Live Stock will be charged ordinary rates, except so much of the same as may be required on the journey.

9. Men, certified by the owners to be *bona fide* in charge of Live Stock, to be conveyed free in the same train as the animals, as follows: One man for each consignment, except where the consignment requires more than one vehicle, when one man for each vehicle may be sent free; but no pass is given unless the charge for the consignment amounts to as much as the charge for one horse. When two or three horses forming one consignment are sent in the same horse-box, and a man is required to travel with each animal, the men may be conveyed free, provided each horse is charged at the single horse rate. Upon both the outward and homeward journeys a separate certificate and contract must be given, which must be retained by the stationmaster at the outward or homeward starting-point, as the case may be.

10. The ordinary rates charged for carriage do not in any case include delivery to, or collection from, the Show ground.

11. Agricultural Societies' Show Plant must be charged at Class C rates, station to station.

12. Tents, Canvas, and other articles carried to Shows, not for exhibition, to be charged the ordinary rates both going and returning.

13. The carriage of all Live Stock, Implements, and other articles going to the Show for exhibition must be *prepaid*.

DELIVERY CHARGES.

The following will be the Charges for the Delivery or Collection of Live Stock, Implements, and other articles between the Railway Stations at Edinburgh and the Show ground:—

1. General traffic, 3s. 6d. per ton (minimum charge, 1s. 6d.)
2. Implements and Machinery (Agricultural), not exceeding 1 ton each, 4s. per ton (minimum charge, 2s.)
3. Implements and Machinery (Agricultural), on their own wheels (specially hauled), not exceeding 1 ton, 4s. each.
4. Single articles, exceeding 1 ton but not exceeding 3 tons, 4s. 6d. per ton.
5. Single articles, exceeding 3 tons but not exceeding 5 tons, 6s. 6d. per ton.
6. Single articles, exceeding 5 tons, by special arrangement only, but no less charge than 8s. 6d. per ton.
7. Rustic Houses, by special arrangement only, but no less charge than 7s. 6d. each load.
8. Carriages, four-wheeled, 5s. each.
9. Carriages, two-wheeled, 4s. each.
10. Cattle, in floats, 3s. 6d. per head, minimum charge, 5s.
11. Sheep and Pigs, in floats, 1s. per head (minimum charge, 5s., and maximum charge, 7s. 6d. for each float).

THE PRINCE OF WALES CHAMPION GOLD MEDALS

In commemoration of the visit of their Royal Highnesses the Prince and Princess of Wales, the Society offers a Champion Gold Medal for the *best Animal or pen* in each of the following sections:—

1. Shorthorn.	10. Hunters.	18. Blackface Sheep.
2. Aberdeen-Angus.	11. Hackneys.	19. Cheviot.
3. Galloway.	12. Ponies.	20. Border Leicester.
4. Highland.	13. Polo and Riding Ponies.	21. Half-bred.
5. Ayrshire.	14. Cobs.	22. Shropshire.
6. Jersey.	15. Highland Ponies.	23. Oxford-Down.
7. Clydesdale Stallions.	16. Shetland Ponies.	24. Suffolk.
8. Draught Geldings.	17. Harness Horses.	25. Swine.
9. Clydesdale Mares and Fillies.		

THE PRESIDENT'S CHAMPION MEDALS

A Champion Medal is given by his Grace THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T., President of the Society, for the *best Animal or pen* of the sex opposite to that of the winner of the Prince of Wales Medal.

NOTE.—Animals entered as Extra Stock may compete for these Medals. Former Winners of the President's Medals are eligible. The Society shall have the right to photograph the Winners for publication in the 'Transactions.' At this Show no animal can be awarded more than one of these Medals.

ENTRY FEES

others	Non- members	CLANN
--------	-----------------	-------

CATTLE

SHORTHORN

PREMIUMS

			£			
			£	£	£	£
<i>Prince of Wales Gold Medal for best Shorthorn</i>						
15/-	25/-	1	Bull calved before 1905	15	10	5 3
15/-	25/-	2	Bull calved in 1905	15	10	5 3
15/-	25/-	3	Bull calved in 1906	12	8	4 2
<i>Tweeddale Gold Medal for best Shorthorn Bull.</i>						
¹ Best Shorthorn Bull in the Show, entered or eligible for entry in Coates's Herd-Book—£25.						
Breeder of best Bull of any age in the three Classes—The Silver Medal.						
15/-	25/-	4	Cow of any age in Milk	12	8	4 2
15/-	25/-	5	Heifer calved in 1905	10	5	3 2
15/-	25/-	6	Heifer calved in 1906	10	5	3 2
¹ Best Shorthorn Female in the Show, entered or eligible for entry in Coates's Herd-Book—£25.						
TOTAL PRIZE MONEY			£158			

Given by the Shorthorn Society.

ENTRY
FEES

CATTLE

PREMIUMS

¹ ABERDEEN-ANGUS

N ^o /		Prinre of Wales Gold Medal for best Aberdeen-Angus Animal		P ^r / S		
				£	£	£
15/-	25/-	Bull calved before 1st Dec. 1904		15	10	5 3
15/-	25/-	Bull calved on or after 1st Dec. 1904		15	10	5 3
15/-	25/-	Bull calved on or after 1st Dec. 1905	9	12	8	4 2
		¹ Ballindalloch Challenge Cup, value £50, for the best Bull in the three Classes.				
		Breeder of best Bull of any age in the three Classes—The Silver Medal.				
		Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.				
15/-	25/-	Cow of any age in Milk	10	12	8	4 2
		¹ Ballindalloch Challenge Cup, value £50, for the best Cow of any age in the above Class.				
		Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.				
15/-	25/-	Heifer calved on or after 1st Dec. 1904	11	10	5	3 2
15/-	25/-	Heifer calved on or after 1st Dec. 1905	12	10	5	3 2
		² Champion Gold Medal for best breeding animal of the breed in the Showyard.				
		TOTAL PRIZE MONEY . . . £158				

GALLOWAY

		Prinre of Wales Gold Medal for best Galloway				
15/-	25/-	Bull calved before 1st Dec. 1904	13	15	10	5 3
15/-	25/-	Bull calved on or after 1st Dec. 1904	14	15	10	5 3
15/-	25/-	Bull calved on or after 1st Dec. 1905	15	12	8	4 2
		Breeder of best Bull of any age in the three Classes—The Silver Medal.				
15/-	25/-	Cow of any age in Milk	16	12	8	4 2
15/-	25/-	Heifer calved on or after 1st Dec. 1904	17	10	5	3 2
15/-	25/-	Heifer calved on or after 1st Dec. 1905	18	10	5	
		TOTAL PRIZE MONEY . . . £158				

HIGHLAND

		Prinre of Wales Gold Medal for best Highland Animal				
15/-	25/-	Bull calved before 1905	19	15	10	5 3
15/-	25/-	Bull calved in 1905	20	15	10	5 3
15/-	25/-	Bull calved in 1906	21	12	8	4 2
		Breeder of best Bull of any age in the three Classes—The Silver Medal.				

¹ "The Ballindalloch Challenge Cups," value £50 each, are offered for the best Bull of any age and best Cow of any age (Heifers excluded) in the Aberdeen-Angus classes, the former presented by Sir George Macpherson Grant, Bart., and the latter by the late Mr C. Macpherson Grant of Drumdnan. Each Cup will become the property of the Exhibitor who shall win it five times, not necessarily in succession. The breeder of the successful animals each year will receive the Society's Silver Medal, with suitable inscription.

² Given by the Polled Cattle Society.

ENTRY FEES			CLASS	PREMIUMS				
Members	Non-Members			First	Second	Third	Fourth	
				£	£	£	£	
CATTLE								
HIGHLAND—continued								
15/-	25/-	22	Cow of any age in Milk	12	8	4	2	
15/-	25/-	23	Heifer calved in 1904	10	5	3	2	
15/-	25/-	24	Heifer calved in 1905	10	5	3	2	
TOTAL PRIZE MONEY				£158				

AYRSHIRE

Prince of Wales Gold Medal for best Ayrshire

15/-	25/-	25	Bull calved before 1905	12	8	4	—
15/-	25/-	26	Bull calved in 1905	10	7	3	—
15/-	25/-	27	Bull calved in 1906	8	5		
Breeder of best Bull of any age in the three Classes—The Silver Medal							
25/-	35/-	28	Cow calved before 1904 in Milk		8	4	—
25/-	35/-	29	Cow in Milk, calved after 1st Jan. 1904		7	3	—
25/-	35/-	30	Cow of any age in Calf, or Heifer calved in 1904 in Calf and due to calve within nine months after the Show	10	7	3	—
15/-	25/-	31	Heifer calved in 1905	10	5	3	—
15/-	25/-	32	Heifer calved in 1906	8	5	3	—
Special Prize of £10 for the best Animal of the Ayrshire breed entered with a number in the Ayrshire Cattle Herd-Book.							

TOTAL PRIZE MONEY . . . £158

JERSEY

Prince of Wales Gold Medal for best Jersey Animal

15/-	25/-	33	Cow in Milk, any age	8	5	3	—
15/-	25/-	34	Heifer calved in 1906	5	3	2	—

TOTAL PRIZE MONEY . . . £26

Total Prize Money for Cattle, £816

¹ Cows in these Classes must have produced calf within fifteen months prior to the Show.
See Rules 65a and 65b as to Milk Test.

² Given by the Ayrshire Cattle Herd Book Society.

ENTRY FEES			CLASS	PREMIUMS			
Members	Non-Members			¹ HORSES		First	Second
				FOR AGRICULTURAL PURPOSES		£	£
				DRAUGHT STALLIONS			
				<i>Prince of Wales Gold Medal for best Clydesdale Stallion or Colt</i>			
30/-	40/-	35		Stallion foaled before 1904		20	15 | 10 |
30/-	40/-	36		Entire Colt foaled in 1904		20	15 | 10 | 4
30/-	40/-	37		Entire Colt foaled in 1905		20	12 | 8 | 4
22/6	32/6	38		Entire Colt foaled in 1906		15	10 | 6 | 4
				Breeder of best Male Animal of any age in the four Classes—The Silver Medal.			
				TOTAL PRIZE MONEY . . .		£177	

				DRAUGHT GELDINGS			
				<i>Prince of Wales Gold Medal for best Draught Gelding</i>			
20/-	30/-	39		Draught Gelding foaled before 1904		10	5
20/-	30/-	40		Draught Gelding foaled in 1904		6	4 | 3 | -
20/-	30/-	41		Draught Gelding foaled in 1905		6	4
				TOTAL PRIZE MONEY . . .		£44	

				DRAUGHT MARES AND FILLIES			
				<i>Prince of Wales Gold Medal for best Clydesdale Mare or Filly</i>			
30/-	40/-	42		Mare of any age, with Foal at foot		20	
20/-	30/-	43		Yield Mare foaled before 1904		12	
20/-	30/-	44		Yield Mare or Filly foaled in 1904		12	
22/6	32/6	45		Filly foaled in 1905		12	
22/6	32/6	46		Filly foaled in 1906		12	
				Best Clydesdale Mare or Filly—Cawdor Challenge Cup, value 50 guineas. See Conditions below. ²			
				³ Breeder of best Clydesdale Brood Mare—The Robert Murdoch Prize, value £10.			
				TOTAL PRIZE MONEY . . .		£167	

Total Prize Money for Clydesdales, £388

¹ No animal is allowed to compete in more than one Class, except that horses entered in other Classes may also compete in the Jumping and Driving Classes.

² This Cup is offered by the Clydesdale Horse Society of Great Britain and Ireland for the best Clydesdale Mare or Filly registered in the Clydesdale Stud-Book, entered in any of the Draught Horse classes, at the Show at which it may be competed for. The Cup must be won three times by an Exhibitor with different animals (but not necessarily in consecutive years) before it becomes his absolute property. The winner of the Cup, other than the absolute winner, shall, before delivery thereof is made to him, give security to the Clydesdale Horse Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. Until the Cup be won outright, the winner on each occasion will receive the Clydesdale Horse Society's Silver Medal as a memento of his winning the Cup.

³ Bequest by the late Mrs Murdoch.

ENTRY
FEES

Members	Non-Members	CLASSES
---------	-------------	---------

PREMIUMS

HORSES

1 HUNTERS

Prince of Wales Gold Medal for best Hunter

22/6	32 6	47	Colt, Gelding, or Filly, foaled in 1906, the produce of thoroughbred Stallions, out of Mares of any breed.—Five Prizes ² —£10, £7, £5, £2, £1.			
22 6	32/6	48	Gelding foaled in 1905—in hand	10	6	4
22 6	32 6	49	Filly foaled in 1905—in hand	10	6	4
20 -	30/-	50	Gelding foaled in 1904—in hand	10	6	4
20 -	30 -	51	Filly foaled in 1904—in hand	10	6	4
Best Hunter Filly in the foregoing Classes, registered or entered in the Hunter Stud-Book—Gold Medal, value £10, 10s.						
20 -	30 -	52	Hunter foaled in 1903, able to carry 14 stone and over	20	10	5
20/-	30 -	53	Hunter foaled in 1903, able to carry 12 stone 7 lb. to 14 stone	20	10	
20/-	30 -	54	Hunter foaled in or before 1902, able to carry 14 stone and over	20	10	
20/-	30/-	55	Hunter foaled in or before 1902, able to carry 12 stone 7 lb. up to 14 stone	20	10	
20 -	30/-	56	Saddle Hack of the Hunter type, any age, not over 15.2 hands	10	6	
Hunter entered in the foregoing Classes, the property of members of, or subscribers to, any established Pack of Foxhounds in Scotland, hunted by their owners in 1906-7, able to carry 13 stone to 14 stone 7 lb. ⁴						
				12	8	
Hunter in the foregoing Classes, 4 years old and upwards, the property of tenant-farmers in Scotland whose chief occupation is farming						
				12	8	
30 -	40 -	57	Hunter Brood Mare, with Foal at foot—£15, £8, £4			
³ Gold Medal, Silver Cup, or £10 in cash for the best Hunter Mare or Filly by a Thoroughbred or Hunter sire, registered in Volume V. of the Imperial Hunter Stud-Book, Boscombe, Hampshire. No mare to take more than one of these Special Prizes each year. The winner to pass sound and free from hereditary disease on the Show ground.						

TOTAL PRIZE MONEY . . . £288

¹ A sum of £50 is contributed to the Prizes for Hunters, per Mr C. H. Scott Plummer.² Given by Sir John Gilmour of Montrave, Bart. ³ Given by the Hunter Improvement Society.⁴ A certificate must be furnished from the Master of the Pack to the effect that the animal has been hunted as provided.⁵ Given by Captain Clayhills Henderson of Invergownie, R.N.⁶ Given by the Imperial Hunter Stud-Book Co.

ENTRY FEES		CLASSES	PREMIUMS		
Members	Non-Members		Secun	Thir	
			£	£	
HORSES					
HACKNEYS					
<i>(All to be shown in hand)</i>					
<i>Prince of Wales Gold Medal for best Hackney</i>					
30/-	40/-	58	Brood Mare, 15 hands and upwards, with Foal at foot, or to foal this season to a registered sire	10	6 4
30/-	40/-	59	Brood Mare, under 15 hands, with Foal at foot, or to foal this season to a registered sire	10	6 4
20/-	30/-	60	Yeld Mare or Filly foaled in 1904	8	5 3
22/6	32/6	61	Filly foaled in 1905	8	5 3
22/6	32/6	62	Filly foaled in 1906	8	5 3
30/-	40/-	63	Stallion foaled in or before 1904, over 15 hands	10	6 4
30/-	40/-	64	Stallion foaled in or before 1904, over 14 and not over 15 hands	10	6 4
22/6	32/6	65	Entire Colt foaled in 1905	8	5 3
22/6	32/6	66	Entire Colt foaled in 1906	8	5 3

All animals entered in the above Hackney Classes must be registered in the Hackney Stud-Book except in Classes 62 and 65, and animals entered in Classes 62 and 66 must be eligible for entry in the Hackney Stud-Book.

¹ A Champion Prize of £10, or a Gold Medal of the same value, at the option of the Exhibitor, is offered by Hackney Horse Society for best Mare or Filly in Hackney or Pony Classes.

TOTAL PRIZE MONEY . . . £160

PONIES

(Classes 67 to 71 will be judged by Hackney Judges)

<i>Prince of Wales Gold Medal for best Pony</i>					
22/6	32/6	67	Stallion, 3 years old and upwards, over 12, not exceeding 14 hands—in hand	5	3 2
22/6	32/6	68	Stallion, 3 years old and upwards, 12 hands and under—in hand	5	3 2
15/-	20/-	69	Yeld Mare, Filly, or Gelding, 3 years old and upwards, over 13 and not over 14 hands—in saddle	5	3 2
15/-	20/-	70	Yeld Mare, Filly, or Gelding, 3 years old and upwards, over 12 and not over 13 hands—in saddle	5	3 2
15/-	20/-	71	Yeld Mare, Filly, or Gelding, 3 years old and upwards, 12 hands and under—in hand	5	3 2
TOTAL PRIZE MONEY . . . £50					

¹ A Mare 6 years old or more must have had a living foal. Winners of the Hackney Society's £10 Prize or Gold Medal in 1907, except at the London and Royal English Shows, excluded. The winner must be entered or accepted for entry in Hackney Stud-Book, and certified free from hereditary disease. This Gold Medal is not redeemable.

ENTRY FEES		CLASS	HORSES	PREMIUMS		
Members	Non-Members			First	Second	Third
				£	£	£
			POLO AND RIDING PONIES			
			<i>Prince of Wales Gold Medal for best Polo or Riding Pony</i>			
22/6	32/6	72	Stallion, 3 years old and upwards, 13.2 and not exceeding 14.2 hands, entered in the Polo and Riding Pony Stud-Book, or got by a Registered Polo Pony sire or out of a Registered Polo Pony dam—in hand	5	3	2

COBS

Prince of Wales Gold Medal for best Pony in Class 73

15/-	20/-	73	Riding Cob or Pony, Gelding, Mare, or Filly, not eligible by pedigree or type for any of the other Pony Classes, from 13.2 to 15 hands—in saddle	5	3	2
------	------	----	--	---	---	---

¹ HIGHLAND PONIES*Prince of Wales Gold Medal for best Highland Pony*

22/6	32/6	74	Highland Pony Stallion, 3 years old or upwards, not exceeding 14.2 hands, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book	10	3	2
22/6	32/6	75	Highland Pony Entire Colts foaled in 1905 or 1906	10	3	2
15/-	20/-	76	Highland Pony Mare, 3 years old or upwards, not exceeding 14.2 hands, yeld or with Foal at foot, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book	10		

² TOTAL PRIZE MONEY . . . £45

¹ Exhibitors desirous of entering in these Classes Ponies not yet accepted for entry in the Highland Section of the Polo Pony Stud-Book are recommended to communicate with Mr J. H. Munro Mackenzie of Calgary, Isle of Mull, who will advise as to the steps to be taken with a view to the registration of the Ponies. All entries for above Classes must be accompanied by a certificate, either from Mr Mackenzie or from Mr A. B. Charlton, Secretary to the Polo and Riding Pony Society, 12 Hanover Square, London, W., to the effect that the animals are entered or accepted for entry in the Highland Pony Section of the Polo Pony Stud-Book.

² The Polo and Riding Pony Society give £15 towards these prizes.

ENTRY
FEES

Men	No Men	C.L.

PREMIUMS

HORSES

First	Second	Third	Fourth
£	£	£	£

SHETLAND PONIES

(All to be shown in hand)

Prince of Wales Gold Medal for best Shetland Pony

22/6	32/6	77	Stallion, not exceeding 10½ hands, foaled before 1904	5	4	3	2
22/6	32/6	78	Entire Colt, not exceeding 10½ hands, foaled in 1904 or 1905	5	4	3	2
22/6	32/6	79	Mare, not exceeding 10½ hands, with Foal at foot	5	4	3	2
15/-	20/-	80	Yeld Mare, not exceeding 10½ hands	5	4	3	2
15/-	20/-	81	Filly, not exceeding 10½ hands, foaled in 1904 or 1905	5	4	3	2

¹ Piece of Silver, value £10 to £12, for best group of Shetland Ponies, to consist of one male and two females, drawn from the ordinary classes; and (2) Silver-mounted Hoof of the celebrated Shetland Pony "Odin 32 for the best Shetland Pony Foal, foaled after 31st March 1907 and exhibited with its dam in the ordinary class for Shetland Pony Mare with Foal at foot, or as Extra Stock; and (3) Silver Medal for best Shetland Pony.

TOTAL PRIZE MONEY . . . £70

DRIVING COMPETITIONS

¹ Prince of Wales Gold Medal for best animal in the Classes for Horses in Harness

20/-	30/-	82	Yeld Mare, Filly, or Gelding, any age, in Harness, 15 hands and upwards, to be driven in the ring	10	5
20/-	30/-	83	Yeld Mare, Filly, or Gelding, any age, in Harness, under 15 hands, to be driven in the ring	10	5
			Special Prize for best Pony in Class 83 under 13 hands	5	-

TOTAL PRIZE MONEY . . . £41

Total for Horses, £1062

¹ Given by Mr W. Mungall.² An animal that has won a President's Medal in another section in this Show shall not be eligible to compete for the Medal in this section.

JUMPING COMPETITIONS

SPECIAL REGULATIONS

(See also the Regulations on pages 55 to 62)

1. Jumping Competitions will take place on the afternoons of Wednesday, Thursday, and Friday, the 10th, 11th, and 12th July; also on the evenings of Wednesday and Thursday.
2. Entries for each day's Competitions will close at the Secretary's Office in the Showyard at 6 P.M. on the preceding day. Entries are free for Evening Jumping, and may be received till the beginning of the Competition.
3. Entry Fees.—Wednesday, £1; Thursday and Friday, 10s. for each class.
4. Accommodation for jumping horses will be provided as follows: Covered shed in which to stand during the day free of charge; or, on application to the Secretary not less than ten days before the opening of the Show, stalls or loose-boxes will be provided at a charge (in addition to the Entry Fee) of £1 for a stall, and £1, 10s. for a loose-box, which must be paid along with the Entry Fee at the time of application.
5. Horses entered for jumping only need not enter the Showyard till 12 noon on the day of Competition, and may leave the Showyard at 6 P.M. each day.
6. The Jumps may consist of Single Hurdle, Gate, Double Hurdle, Wall, and Water Jump, power being reserved by the Society to alter these, as well as the Handicaps, as may be thought desirable.

Cl.		WEDNESDAY.				
		First	Sec.	Thi	For	Wyt
		£	£	£	£	£
1	Horse or Pony any height	20	15	10	5	3

THURSDAY.

2	Horse or Pony any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in Class 1	10	8	5	3	2
---	--	----	---	---	---	---

FRIDAY.

3	Horse or Pony any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in either of Classes 1 or 2—4 inches extra for the winner of the two first prizes in Classes 1 and 2	10	8	5	3	2
	Champion Prize for most points in Prizes with one or more horses in above Classes—First Prize to count five points; Second Prize, four points; Third Prize, three points; Fourth Prize, two points; and Fifth Prize, one point—the money to be evenly divided in the event of a tie	10	—	—	—	—

WEDNESDAY AND THURSDAY EVENINGS.

Horse or Pony any height (each evening)	4	|
---	---	--

Total Prize Money for Jumping, £149

GENERAL SHOW AT EDINBURGH IN 1907

ENTRY FEES				PREMIUMS			
Members	Non-Members	CLASSES		First	Second	Third	Fourth
				£	£	£	£
S H E E P							
¹ BLACKFACE							
<i>Prince of Wales Gold Medal for best pen of Blackface Sheep</i>							
10/-	15/-	84	Tup above one shear	12	8	4	2
10/-	15/-	85	Shearling Tup	12	8	4	2
10/-	15/-	86	Ewe above one shear, with her Lamb at foot	10	5	2	-
10/-	15/-	87	Shearling Ewe or Gimmer	10	5	2	-
- Best Shearling Blackface Tup entered in Class 85, clipped on or after 1st April 1907, no part of the animal to be clipped prior to that date—							
Prizes, £10, £5, and £2.							
TOTAL PRIZE MONEY				£86			

CHEVIOT							
<i>Prince of Wales Gold Medal for best pen of Cheviot Sheep</i>							
10/-	15/-	88	Tup above one shear	12	8	4	2
10/-	15/-	89	Shearling Tup	12	8	4	2
10/-	15/-	90	Ewe above one shear, with her Lamb at foot	10	5	2	-
10/-	15/-	91	Shearling Ewe or Gimmer	10	5	2	-
² The Borthwick Challenge Cup, value £25, for best Sheep in the Cheviot Classes.							
TOTAL PRIZE MONEY				£86			

BORDER LEICESTER							
<i>Prince of Wales Gold Medal for best pen of Border Leicesters</i>							
10/-	15/-	92	Tup above one shear	12	8	4	2
10/-	15/-	93	Shearling Tup	12	8	4	2
10/-	15/-	94	Ewe above one shear	10	5	2	-
10/-	15/-	95	Shearling Ewe or Gimmer	10	5	2	-
⁴ Prize of £10 for best pen of Border Leicester Sheep, drawn from the ordinary Classes, registered or eligible for registration in the Border Leicester Flock-Book.							
TOTAL PRIZE MONEY				£86			

¹ The Sinclair Scott Challenge Trophy, value 100 guineas, given by the late Mr R. Sinclair Scott of Burnside, for a Group of Sheep consisting of one aged ram, one shearling ram, one ewe and lamb, the lamb to be the produce of the ewe exhibited, and may be either a tup or ewe lamb, and to be judged as part of the group, and one gimmer, all to be bred by and the property of the exhibitor, or bred on the farm now in his possession and the property of exhibitor, and shown in the ordinary Classes; the Trophy to become the property of the exhibitor winning it three times with different sheep; lambs, shearling rams, and gimmers being eligible to compete again. The Society will give a Silver Medal, duly inscribed, commemorative of the event, to the winner on each occasion.

² Given by Mr C. Howatson of Glenbuck.

³ Given by the Cheviot Sheep Society.

⁴ Given by the Society of Border Leicester Sheep-Breeders.

ENTRY
FEES

PREMIUMS

SHEEP

HALF-BRED

Prince of Wales Gold Medal for best pen of Half-Breds

Men	Non Members	CL.					Sec	£	£
10/-	15/-	96	Tup above one shear					12	
10/-	15/-	97	Shearling Tup					10	
10/-	15/-	98	Ewe above one shear					10	
10/-	15/-	99	Shearling Ewe or Gimmer					10	
			TOTAL PRIZE MONEY					£26	

SHROPSHIRE

Prince of Wales Gold Medal for best pen of Shropshires

10/-	15/-	100	Tup above one shear				6	4	
10/-	15/-	101	Shearling Tup				6	4	
10/-	15/-	102	Ewe above one shear				5	3	
10/-	15/-	103	Shearling Ewe or Gimmer				5	3	
			TOTAL PRIZE MONEY					£44	

OXFORD-DOWNS

*Prince of Wales Gold Medal for best pen of
Oxford-Downs*

10/-	15/-	104	Shearling Tup				6	4	2
10/-	15/-	105	Shearling Ewe or Gimmer				5	3	2
			TOTAL PRIZE MONEY					£22	

SUFFOLK

*Prince of Wales Gold Medal for best pen of
Suffolk Sheep*

10/-	15/-	106	Shearling Tup				6	4	2
10/-	15/-	107	Shearling Ewe or Gimmer				5	3	2
			Best Suffolk Ewe in Class 107 bred in Scotland— £5						
10/-	15/-	108	Three Ewe Lambs, uncoloured and untrimmed, except as to the squaring of the tail—£5, £3, and £2.						
			Best Pen of Suffolk Ewe Lambs in Class 108 bred in Scotland—£5.						
			TOTAL PRIZE MONEY					£22	

FAT SHEEP

10/-	15/-	109	Three Fat Lambs, any breed or cross, dropped in the year of the Show				5	3	—
			TOTAL PRIZE MONEY for Sheep, £440						

1 Given by the Suffolk Sheep Society.

GENERAL SHOW AT EDINBURGH IN 1907

ENTRI
FEES

Members

CLASS

SHEEP

PREMIUMS

£ s d
Sec 2
£ £

FAT SHEEP—continued

- ¹Best Pen of Cross-bred Lambs in Class 109 got by a Pure-bred Shropshire Tup—£7, £3.
²Best Pen of Lambs in Class 109 got by a Suffolk Tup, and out of Cheviot or Blackface Ewes—£5.
³Best Pen of Lambs in Class 109 got by a Suffolk Tup, and out of Border-Leicester, Half-bred, or Three-parts-bred Ewes—£5.

SWINE

Prince of Wales Gold Medal for best pen of Swine

LARGE WHITE BREED

10/-	15/-	110	Boar . . . . .	.	6	4	2
10/-	15/-	111	Sow . . . . .	.	6	4	2
10/-	15/-	112	Pair of Boars, not above 8 months old	.	5	3	2
10/-	15/-	113	Pair of Gelts, not above 8 months old	.	5	3	2
TOTAL PRIZE MONEY				.	£44		

BERKSHIRE

10/-	15/-	114	Boar . . . . .	.	6	4	2
10/-	15/-	115	Sow . . . . .	.	6	4	2
10/-	15/-	116	Pair of Boars, not above 8 months old	.	5	3	2
10/-	15/-	117	Pair of Gelts, not above 8 months old	.	5	3	2
TOTAL PRIZE MONEY				.	£44		

Total Prize Money for Swine, £88

EXTRA STOCK

Animals not included in the Classes for Competition may be exhibited as Extra Stock, and may receive Awards as follows:—Very Highly Commended, or Highly Commended, carrying the Medium Silver Medal, or Commended, for which the Bronze Medal is given.

Animals entered as Extra Stock are eligible to compete for the President's Medals, whether former winners of these Medals or not.

¹ Given by the Shropshire Sheep-Breeders' Association.

² Given by the Suffolk Sheep Society.

POULTRY

First Premium—ONE SOVEREIGN; *Second Premium*—TEN SHILLINGS. In each Class in which there are six or more entries, a Third Prize of Five Shillings may be awarded, provided there is sufficient merit in the pens. Three or more Commendations may also be given—thus, Very Highly Commended, Highly Commended, and Commended.

Champion Medals are offered as follows:—

- | | |
|--------------------------------|-------------------------|
| 1. Best Cock, any Variety. | 5. Best Pen of Ducks. |
| 2. Best Hen, any Variety. | 6. Best Pen of Geese. |
| 3. Best Cockerel, any Variety. | 7. Best Pen of Turkeys. |
| 4. Best Pullet, any Variety. | |

Aged Birds must have been hatched previous to, and Cockerels and Pullets in, the year of the Show.

DORKING—		Class	LANGSHAN		Class
<i>Coloured</i>		1. Cock			41. Cockerel
		2. Hen			42. Pullet
		3. Cockerel			
		4. Pullet	ORPINGTON—		
<i>Silver Grey</i>		5. Cock	<i>Black</i>		43. Cock
		6. Hen			44. Hen
		7. Cockerel			45. Cockerel
		8. Pullet			46. Pullet
COCHIN-CHINA		9. Cock	<i>Buff</i>		47. Cock
		10. Hen			48. Hen
BRAHMAFOOTRA		11. Cock			49. Cockerel
		12. Hen			50. Pullet
BRAHMA or COCHIN		13. Cockerel	WYANDOTTE—		
		14. Pullet	<i>Gold</i>		51. Cock
SCOTCH GREY		15. Cock			52. Hen
		16. Hen	<i>Silver</i>		53. Cock
		17. Cockerel			54. Hen
		18. Pullet	<i>Any Variety</i>		55. Cockerel
HAMBURG—					56. Pullet
<i>Black</i>		19. Cock	INDIAN GAME		57. Cock
		20. Hen			58. Hen
<i>Any other Variety</i>		21. Cock			59. Cockerel
		22. Hen			60. Pullet
<i>Any Variety</i>		23. Cockerel	GAME—		
		24. Pullet	<i>Old English</i>		61. Cock
PLYMOUTH ROCK		25. Cock			62. Hen
		26. Hen	<i>Modern</i>		63. Cock
		27. Cockerel			64. Hen
		28. Pullet	<i>Any Variety, not includ-</i>		
MINORCA		29. Cock	<i>ing Indian</i>		65. Cockerel
		30. Hen			66. Pullet
		31. Cockerel	BANTAM—		
		32. Pullet	<i>Game, any Variety, includ-</i>		
LEGHORN—			<i>ing Old English</i>		67. Cock
<i>White</i>		33. Cock			68. Hen
		34. Hen	<i>Any other Variety Bantam</i>		69. Cock
<i>Any other Variety</i>		35. Cock			70. Hen
		36. Hen	ANY OTHER RECOGNISED		
<i>Any Variety</i>		37. Cockerel	BREED OF POULTRY		71. Cock
		38. Pullet			72. Hen
LANGSHAN		39. Cock			73. Cockerel
		40. Hen			74. Pullet

TABLE FOWLS—	Class	DUCKS—	Class
<i>Any Breed or Cross, to be judged solely as Table Fowls, and without regard to fancy points</i>	75. { Pair of Cockerels	<i>Rouen</i>	81. Drake
	76. { Pair of Pullets	<i>Any other Variety</i>	82. Duck
		<i>Any Breed (Aylesbury excepted)</i>	83. Drake
			84. Duck
DUCKS—			85. { Drake (Young)
<i>Aylesbury</i>	77. Drake		86. { Duck (Young)
	78. Duck	GEESE	87. Gander
	79. { Drake (Young)		88. Goose
	80. { Duck (Young)	TURKEYS	89. Cock
			90. Hen

AMOUNT OF POULTRY PREMIUMS, £155, 15s

DAIRY PRODUCE

No Exhibitor to show more than one lot in any Class.

Class	Premiums.			
	1st.	2nd.	3rd.	
1. Powdered Butter, not less than 7 lb.	£	£	£	
2. Fresh Butter, three 1-lb. rolls	4	2	1	
3. Cheddar Cheese, 56 lb. and upwards—£6, £4, £2, £1				£14
4. Flat White Cheese, made according to any method, from a dairy where all the cheese are made flat, 40 lb. and upwards—£4, £2, £1				13
5. Cheese, 14 lb. and under—£3, £2, £1				7
				6
				<u>£40</u>

[ABSTRACT

ABSTRACT OF PREMIUMS.

(21 Champion Medals given by HIS GRACE THE DUKE OF BUCCLEUCH AND
QUEENSBERRY, K.G., K.T.)

GIVEN BY THE SOCIETY.

1. Prince of Wales Gold Medals	£280 0 0
2. Cattle	816 0 0
3. Horses	1062 0 0
4. Jumping	149 0 0
5. Sheep	440 0 0
6. Swine	88 0 0
7. Poultry	155 15 0
8. Dairy Produce	40 0 0
9. Medals to Breeders, &c.	20 0 0
10. Prizes for Timber ¹	20 0 0
	£3070 15 0
Private Subscriptions	65 0 0
Given by the Society	£3005 15 0

CONTRIBUTED PRIZES.

1. The Shorthorn Society	£250 0 0
*2. Sir George Macpherson Grant, Bart.	50 0 0
*3. The late Mr C. Macpherson Grant of Drumcluan	50 0 0
4. Polled Cattle Society	10 0 0
5. Ayrshire Cattle Herd-Book Society	10 0 0
*6. Cawdor Challenge Cup	52 10 0
7. Bequest by late Miss Murdoch	10 0 0
8. Per Mr C. H. Scott Plummer	50 0 0
9. Sir John Gilmour, Bart.	25 0 0
10. Hunters' Improvement Society	10 10 "
11. Imperial Hunter Stud-Book Co.	10 0 0
12. Captain Clayhills Henderson	27 0 0
13. Hackney Horse Society	10 0 0
14. Polo and Bi ling Pony Society	15 0 0
15. Mr W. Mungall	15 0 0
16. Mr Charles Howatson	17 0 0
*17. The late Mr R. Sinclair Scott	105 0 0
*18. Cheviot Sheep Society	25 0 0
19. Society of Border Leicester Sheep-Breeders	10 0 0
20. Suffolk Sheep Society	30 0 0
21. Shropshire Sheep-Breeders' Association	10 0 0
22. Tweeddale Gold Medal	16 0 0
	608 0 0
	£3613 15 0

¹ Grant to Royal Scottish Arboricultural Society for Prizes for Timber.

* Challenge Prizes.

JAMES MACDONALD, *Secretary.*J GEORGE IV. BRIDGE,
EDINBURGH, Feb. 1907.

The Society's Show for 1908 will be held at Aberdeen
on the 21st, 22nd, 23rd, and 24th July.

APPENDIX B

LIST OF MEMBERS

OF

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

ARRANGED ACCORDING TO COUNTIES
AND SHOW DISTRICTS

1907

By the Charter of 1834 the Society consists of two classes, Ordinary and Honorary or Corresponding Members. The number of Honorary or Corresponding Members resident in the United Kingdom must not exceed twenty, but with power to the Society to elect as Honorary Associates persons resident abroad, not subjects of her Majesty, who may have been benefactors to the Society, or who are distinguished for their skill in Art or Science, provided that the number of such Foreign Associates shall not exceed twenty.

By a Bye-law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma were thereby eligible to be elected free Life Members of the Society. This Bye-law was rescinded in 1900.

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January, and June or July. It is not necessary that the proposer should attend the meeting.

Higher Subscription.—The Ordinary Annual Subscription is £1, 3s. 6d., and the Ordinary Subscription for Life-Membership is £12, 12s.; or, after ten annual payments have been made, £7, 7s.

Lower Subscription.—Proprietors farming the whole of their own lands, whose Rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a Subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 3s. Subscriptions are payable on election, and afterwards annually in January.

According to the Charter, "Any person elected an Ordinary Member of the Society who shall not have objected to his election, on the same being intimated to him by the Secretary, shall not be entitled to resign or withdraw his name as a Member of the Society, unless he shall have paid up his Life Subscription, or shall have previously settled and paid in Annual Contributions a sum equal to that fixed by the Society at the time of his election, to be paid by Members as the purchase of a Life Subscription in lieu and in redemption of the Annual Payments." The Life Subscription for a Member paying £1, 3s. 6d. is £12, 12s., and for a Member paying 10s., £5, 5s.

Members having Candidates to propose are requested to state whether the Candidate should be on the £1, 3s. 6d. or 10s. list.

Members of the Society receive the 'Transactions' free on application, and are entitled to consult the Chemist and Botanist at reduced rates—to apply for District Premiums—to report Ploughing Matches for the Medal—to free admission to the Showyard, and to exhibit Stock and Implements at reduced rates. Firms are not admitted as Members, but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

Members having Candidates to propose are requested to send their names to JAMES MACDONALD, Esq., 3 George IV. Bridge, Edinburgh.

By a Resolution of the Directors, 2nd February 1887, the list of Members, arranged according to Counties, has been so made up that no Member shall vote in more than one Show District for the nomination of Directors. Members finding any mistakes are requested to report the same to JAMES MACDONALD, Esq., 3 George IV. Bridge, Edinburgh.

The following is the List of Counties constituting the Show Districts:—

	PAGE
1. Glasgow, for the Counties of Argyll, Ayr, Bute, Lanark, and Renfrew,—	
Argyll	5
Ayr	7
Bute	9
Lanark	10
Renfrew	14
2. Perth, for the Counties of Fife, Forfar (Western Division), Kinross, and Perth (Perth Show Division),—	
Fife	17
Forfar (Western Division)	20
Kinross	22
Perth (Perth Show Division)	22
3. Stirling, for the Counties of Clackmannan, Dumbarton, Perth (Stirling Show Division), and Stirling,—	
Clackmannan	27
Dumbarton	27
Perth (Stirling Show Division)	28
Stirling	30
4. Edinburgh, for the Counties of Edinburgh, Haddington, and Linlithgow,—	
Edinburgh	32
Haddington	37
Linlithgow	39
5. Aberdeen, for the Counties of Aberdeen, Banff, Forfar (Eastern Division), and Kincardine,—	
Aberdeen	40
Banff	44
Forfar (Eastern Division)	45
Kincardine	46

6. Dumfries, for the Counties of Dumfries, Kirkcudbright, and Wigtown,—

Dumfries	48
Kirkcudbright	51
Wigtown	53

7. Inverness, for the Counties of Caithness, Elgin, Inverness, Nairn, Orkney and Shetland, Ross and Cromarty, and Sutherland,—

Caithness	55
Elgin	55
Inverness	56
Nairn	59
Orkney and Shetland—	
Orkney	59
Shetland	59
Ross and Cromarty	59
Sutherland	61

8. Border District, for the Counties of Berwick, Peebles, Roxburgh, and Selkirk,—

Berwick	62
Peebles	63
Roxburgh	64
Selkirk	66

England	67
Ireland	72
The Colonies	73
Foreign Countries	74
Members whose Residences are unknown	75
Diploma Holders, Free Life Members	77
Holder of First-Class Certificate in Forestry, Free Life Members	79

LIST OF MEMBERS

ARRANGED ACCORDING TO COUNTIES AND SHOW DISTRICTS.

*The Members marked * have been Presidents, and † Vice-Presidents.*

* His Most Gracious Majesty THE KING.

Admitted
1873

HONORARY MEMBERS.

- | | |
|--|--|
| 1896*His Royal Highness The PRINCE OF WALES | 1903 Ewart, Professor J. Cossar, M.D., F.R.S., University, Edinburgh |
| 1903 Clarke, Sir Ernest, 31 Tavistock Square, London, W.C. | 1903 Ogilvie, F. Grant, C.B., Assistant Secretary, Board of Education, London |
| 1905 Craik, Sir Henry, K.C.B., 5A Deans Yard, Westminster, London | 1903 Plunket, Right Hon. Sir Horace, F.R.S., Department of Agriculture and Technical Instruction, Dublin |
| 1905 Elliott, Sir Thomas H., K.C.B., Secretary, Board of Agriculture, London | 1903 Warrington, R., F.R.S., High Bank, Harpenden, Herts |

FOREIGN ASSOCIATES.

- 1903 Bang, Professor B., Copenhagen
 1903 Saunders, Dr Wm., Director, Central Experimental Farm, Ottawa, Canada
 1903 Stebler, Dr F. G., Zurich, Switzerland

1.—GLASGOW DISTRICT.

EMBRACING THE

COUNTIES OF ARGYLL, AYR, BUTE, LANARK, AND RENFREW.

ARGYLL

- Admitted
 1898 Ainsworth, John Stirling, of Ardnaisleig, M.P., Kilbrennan
 1903 Aldam, W. Wardie, of Ederline, Ford
 1881 Allan, Alex., of Aros, Tobermory
 1905 Allan, Bryce, Llanddu, Tobermory
 1889 Anderson, Wm. D., Sylvan Villa, Oban
 1839 Andrew, David, Southend, Campbelltown
 1901 Andrew, Matthew, Drimvore, Glassary, Lochgilphead
 1860†Anovll, The Duke of, K.T., Roseneath
 1905 Armour, Robt. L., Machrihanish, Campbelltown

- Admitted
 1906 Armstrong, Thos. J. A., Glenborrodale, Acharracle, R.S.O.
 1900 Ballantyne, Thomas, Kilmartin Hotel, Kilmartin
 1899 Blackburn, Major Hugh, Annat, Corpach
 1900 Bontein, James S., of Glencrutten, Oban
 1905 Boyd, James, of Carlskey, Southend, Kintyre
 1884 Boyd, William, Glenmorven, Drimnin, Oban
 1905 Brown, Andrew, Auchallader, Bridge of Orchy
 1901 Brown, Arch., Hotel Lochgair, Lochfyne
 1899 Brown, Donald, Dunbeg, Connel Ferry

*List of Members.***Admitted**

- 1905 Bruce, Peter, Ach-na-cloich, Connell, Argyll
 1881 Buchanan, Dr Alexander, Tiree, Tobermory
 1905 Buchanan, Donald, Ballochendrain, Glendaruel, S.O.
 1900 Buchanan, Frank H., Fanans, Taynult
 1897 Bullough, Sir George, of Rum, Oban
 1905 Bullough, Tom, of Fasnacloich, R.S.O.
 1889 Cameron, Allan Gordon, of Barcaldine Castle, Letterwalton, Ledaig
 1905 Cameron, Angus, Benmore, Kilmun
 1905 Cameron, Duncan, Tervine, Kilchrenan
 1898 Cameron, Duncan, Sheepknowe, Bunnessan
 1889 Campbell, Alex. James Henry, of Dunstaffnage, Oban
 1894 Campbell, Colin George Pelham, of Stonesfield, Tarbert
 1875 Campbell, Capt. D., of Invernell and Ross, Ardrishaig
 1882 Campbell, Edward P., Captain, 42nd Highlanders, South Hall, Coltntraive
 1885 Campbell, Lt.-Col. H. Burnley, of Ormisdale, Coltntraive
 1874 Campbell, John, of Kilberry, Argyllshire
 1877 Campbell, John, Salen, Mull
 1894 Campbell, John, Ardfuir, Kilmartin, Lochgilphead
 1890 Campbell, Robt. C. Graham, of Shirvan, Lochgilphead
 1905 Campbell-Wyndham, R. P. Bouvarie, of Dunoon, Glengart House, Dunoon
 1877 Clark, Andrew, Islay
 1893 Clark, Francis William, of Ulva, Aros, N.B.
 1897 Clark, John W., Bernice, Kilmun
 1893 Colkhat, Robert D., Achateny, Ardnamurchan, Oban
 1905 Colvill, John, Roekbank, Campbeltown
 1905 Cordner, Matthew, Balleimore, Lochgilphead
 1899 Corson, Robt. H., Origan, Appin, Argyllshire
 1885 Corson, Thomas, Auction Mart, Oban
 1901 Crawford, Robert, Upper Largie, Kilmartin
 1884 Crerar, Peter C., Brackley, Dalmally
 1870 Cuddon-Fletcher, Bernard James, of Dunans, Coltntraive
 1907 Cullen, Robert, Dunlossit Estate Office, Bridgend, Islay
 1905 Dick, Matthew, Bank of Scotland, Campbeltown
 1905 Dobie, John, Clydesdale Bank, Dunoon
 1899 Downie, James MacAlpine, of Appin, Oban
 1881 Duncan, R., Royal Hotel, Tigh-na-bruach
 1905 Edgar, James, Bl-Cruin, Lochgilphead
 1905 Ellison, Francis Beaumont, Braglesnabeg, Kilmilver, Oban
 1898 Ferguson, Arch., Lochaline, Morven
 1905 Fleming, John, Camquhart, Glendaruel, S.O.
 1897 Fletcher, John A., Landale, Strontian
 1874 Forsyth, James N. M., of Quinish, Tobermory
 1898 Fraser, Chas. Jas. Roy, of Lochavich, Kilchrenan
 1884 Fraser, Duncan, Hotel, Lochawe
 1895 Fraser, Hugh, Largie Estate Office, Taynloan
 1901 Gardner, John Neilson, Dail-an-Rois, Corpach
 1889 Gemmell, John, Dalrioch, Campbeltown
 1891 Gillies, John, Barnacarry, Kilmilver, Oban
 1905 Gillies, Lachlan, Ardachaple, Coltntraive

Admitted

- 1897 Gillies, Neill, Auchnashellach, Lochgilphead
 1907 Gooch, Edward Sinclair, Torcastle, Banavie
 1901 Graham, Alex., Tonrioch, Campbeltown
 1900 Graham, Jas. E. M., Tarbert, Lochfyne
 1889 Graham, Robt. C., of Skipness, Whitehouse
 1899 Graham, Robert Francis, of Skipness, Whitehouse, Kintyre
 1894 Greig, James, Chiskan, Campbeltown
 1901 Guthrie, W. M., of Duart, M.P., Isle of Mull
 1873 Hall, Allan, Tangy House, Kilkennie, Kintyre
 1906 Hall, James M., Tangy, Kilkennie, Kintyre
 1905 Hall, Stuart, Killeen House, Taynloan
 1888 Hamilton, George, Crear, Kilberry
 1899 Hartley, G. Wm., Hayfield, Kilchrenan
 1896 Hay, Colin B., Ardbeg, Islay
 1889 Hunter, James, Machribeg, Campbeltown
 1857 Hunter, Wm., Lilybank, Campbeltown
 1894 Inglis, George Erskine, Estates Office, Campbeltown
 1905 Ironside, William, Columba Terrace, Oban
 1907 Ker, Ronald Scott, Glenreassdell Mains, Whitehouse, Kintyre
 1850 Lamont, James, of Knockdow, Greenock
 1897 Laughton, John, Ballabus, Bridgend, Islay
 1905 Leschallas, Captain John H. P., Glenfinart, Ardenfinny, Greenock
 1883 Lothian, Jas., Rockwood, Campbeltown
 1906 Lothian, John, of Freshnish, Isle of Mull, Oban
 1905 M'Alister, John, Ardyne, Toward
 1905 MacArthur, Alister, National Bank, Inveraray
 1896 MacArthur, Alex., Banker, Oban
 1905 M'Arthur, Archd., Castleton Farm, Lochgilphead
 1905 M'Arthur, Neil, Balgreggan, Campbeltown
 1861 M'Callum, John, Fairfield, Kilm
 1905 M'Calman, Hugh, Monydram, Lochgilphead
 1907 MacColl, Donald, Ardgour, Argyllshire
 1879 M'Coll, Duncan, Olachan House, Lismore, Oban
 1898 M'Coll, Duncan, Kildalton, Port Ellen, Islay
 1901 M'Coornick, Duncan, Fincharn, Ford, Argyllshire
 1881 Macdonald, H., Island House, Tiree, Oban
 1899 Macdonald, John A., Arichamish, Ford, Lochgilphead
 1882 Macdonald, Robert, Corries, Lochawe
 1905 Macdonald, A., Auchnashellach, Lochgilphead
 1902 Macdonald, Harry L., of Dunach, Oban
 1893 Macdonald, J. Ronald M., Largie Castle, Taynloan
 1905 MacDougall, Capt., of Dunollie, Oban
 1899 M'Dougall, James, Tarbert, Argyllshire
 1882 MacDougall, J. Fatten, C.E., of Gallanach, Oban
 1892 M'Dougall, Major S., of Lunga, Dail House, Lochgilphead
 1898 Macfarlane, John, Cladich, Dalmally
 1873 Macfarlane, Lewis, Invermay, Douglas Pier, Lochgoll
 1883 MacGregor, Donald, Solicitor, Oban
 1905 M'Intyre, Alex., Kilbridmore, Glendaruel, S.O.
 1893 M'Intyre, John Alexander, Frackarsaig, Lismore, Oban

Admitted

- 1869 MacKechnie, Jas., Blarcreen House, Taynult
 1891 Mackenzie, J. H. Munro, of Mornish, Tobermory
 1905 M'Lachlan, Hugh, Stronaskar, Lochgilphead
 1886 MacLachlan, Jn., of MacLachlan, Inveraray (12 Abercromby Place, Edinburgh)
 1907 M'Laine, Charles, 22 Alexandra Place, Oban
 1870 MacLaine, M. G., of Lochbuie, Oban
 1905 M'Laren, Malcolm, Hotel, Dalmally
 1876 M'Latchie, W., Ballygreggan, Campbeltown
 1906 Maclean, A. T. H., of Ardgour
 1897 Maclean, Roderick, Gomitra, Aros, Isle of Mull
 1849 Macleod, John N., of Kintarbert, Glen-saddell, Campbeltown
 1907 Macleod, J. Torquil M., Ardentrive, Kerrara, Oban
 1882 M'Nab, Robert, Beaconsfield, Dunoon
 1894 M'Nair, Archibald, Moy, Campbeltown
 1897 M'Naughton, Duncan, Balino, Oban
 1898 Macneal, Capt. Hector, of Ugadale, Campbeltown
 1901 M'Neill, D., Loohhead, Ormsary, Ardrishaig
 1905 M'Nicol, William, Garvie, Glendaruel, S.O.
 1882 M'Phail, John, Ardura, Craignure, Mull
 1891 Macpherson, Colin D., Corpach, Fort William
 1907 Macrae, Kenneth, Seaforth, Oban
 1906 M'Varish, Donald, Invercoe, Glencoe, R.S.O.
 1891 M'Vean, Colin A., Kilfinichen, Pennyghael, Mull
 1905 M'Vean, John, Connel Ferry
 1908 Malcolm, Colonel, of Poltalloch, C.B., Lochgilphead
 1875 Martin, Donald T., of Dunlosait, Port Askaig, Islay
 1874 Masson, John, Tobermory
 1905 Maxwell, Robert, Baraskomil, Campbeltown
 1894 Melles, Joseph, Gruline, Aros, Isle of Mull
 1861 Mercer, John, Ardnadam, Sandbank
 1901 Miller, J. Neilson, Glendyne, Argyll Road, Dunoon
 1901 Miller, Robert, Torbhlaren, Glassary, Lochgilphead
 1905 Mitchell, Hugh, Seafeld, Campbeltown
 1889 Mitchell, James B., Aros, Campbeltown
 1908 Mitchell, John, Killinnochnoch, Lochgilphead
 1905 Montgomery, James, M.R.C.V.S., Ardrishaig
 1897 Morgan, Fred., of Glengorm, Tobermory (Remenham House, Avenue Road, Regent's Park, London)
 1855 Morrison, Charles, of Islay, Bridgend
 1897 Mundell, Hugh, Tarbert, Lochtyne
 1877 Munro, D. H. C., of Kenlochlaich, Appin
 1888 Munro, John, Ironmonger, Oban
 1905 Murray-Allan, R. A., yr. of Glenfeochan, Kilmory, Oban
 1852 Murray-Allan, T. W., of Glenfeochan, Kilmory, Oban
 1888 Nicolson, Neil, Auchgoyle, Tigh-na-bru-sich
 1887 Ord, Sir A. J. Campbell, of Kilmory, Bart., Lochgilphead
 1900 Philip, W. W., Estate Office, Gigha
 1889 Ralston, Gav., Kilmichael, Campbeltown
 1885 Ralston, Robert, Estate Office, Isle of Coll

Admitted

- 1896 Ramsay, Iain, of Kildalton, Port Ellen, Islay
 1882 Reid, Peter, Port Ellen, Islay—Free Life Member
 1897 Reid, Robert M., Toward, Kyles of Bute
 1892 Robertson, Alexander, Chemist, Oban
 1899 Roedemer, Charles Steuart, Dunoon
 1906 Ross, Alex., General Merchant, Kilmartin
 1898 Scarlett, W. J. Yorke, of Gigha
 1898 Seath, Alex., Isle of Rum, Oban
 1907 Sellar, Mrs Craig, of Ardtornish, Morvern, Oban
 1891 Shairp, Alex., Land Agent and Architect, Oban
 1884 Shankland, William, Killicheran, Lisamore
 1906 Sinclair, Malcolm, Taraphocain, Fasnacloch, R.S.O.
 1881 Smith, W. Anderson, Ledaig
 1894 Stewart, Arch., Parkfergus, Campbeltown
 1905 Stalker, P., Achadunan, Inveraray
 1863 Stewart, Com. D., R.N., Knockrioch, Campbeltown
 1881 Stewart, John Lorne, of Coll, Oban
 1904 Stoddart-Maclean, W., Melfort, Kilmelfort
 1908 Struthers, Arch., Dunolliebeg, Oban
 1892 Stuart, Mrs E., Dalness, Glenetive, Taynult
 1889 Sutherland, John D., Oban
 1906 Sutherland, John N., Estate Office, Duart, Isle of Mull
 1870 Tod, James, Rashfield, Kilmun
 1875 Turner, A., Kilchamaig, Whitehouse, Kintyre
 1900 Turner, Charles, Corrachaipe, Dunoon
 1898 Veitch, John, Fasnacloch, Ledaig
 1905 Weir, A. M., Auchengarron, Glendaruel, S.O.
 1905 Weir, James, Baligreggan, Campbeltown
 1906 Weir, John, Gallowhill, Campbeltown
 1905 Weir, Norman, Tigh-an-truish Hotel, Ardencaple, Kilfinver, Oban
 1876 Whyte, D. C., Crossaig, Kintyre
 1899 Wigan, Lewis D., Kilmory, Lochgilphead
 1899 Young, Robert, Knockrioch, Campbeltown
 1887 Young, William, Drum, Campbeltown
 1899 Younger, C. A. J., Benmore, Kilmun
- AYR.
- 1882†Ainslie, The Marquis of, Culzean Castle, Maybole
 1897 Aird, David, 80 Portland Street, Kilmarnock
 1902 Alexander, Wm., Alticane, Pinwherry, Ayrshire
 1892 Allan, Henry, Ballochmyle, Manchain
 1895 Allan, James, Kirkland, Dalry, Ayr
 1882 Alston, George, Loudoun Hill, Darvel
 1907 Andrew, James, Muirhouse, Monkton
 1897 Angus, Robt., Ladykirk, Monkton
 1905 Angus, R. L., Lugar House, Lugar, Ayrshire
 1899 Austin, Robert D. J. Main, Blackelschrie, Barrhill
 1897 Baird, J. G. A., Wellwood, Muirkirk
 1870 Baird, John, Burnfoot Cottage, Falkland, Newton-on-Ayr
 1899 Barr, Thomas, Monkland, Kilmarnock
 1908 Beavan, Jim, Eglinton Kennels, Kilmilnning
 1897†Blair, Colonel Frederick G., of Blair, C.B., Dalry

Admitted

- 1897 Blair, Robert, British Linen Co. Bank, Galston
 1882 Bone, William, Shalloch Park, Girvan
 1899 Boswell, J. D., of Garrahan, Cumnock (41 Northumberland Street, Edin.)
 1900 Brackenridge, Alex., Onthank, Kilmarnock
 1866 Brown, David, Banker, Maybole
 1904 Brown, Francis Edward, Royal Bank, Maybole
 1906 Bruce, William, Langholm, Dundonald
 1870 Bruges, Edward C., Daigig, New Cumnock
 1907 Caldwell, David, jun., Pennyfadzeoch, Cumnock
 1906 Caldwell, John, Springhill, Kilmarnock
 1897 Cameron, Andrew, Olydesdale Bank, Newmilns
 1894 Campbell, James Archibald, of Craigie, Ayr
 1887 Campbell, W. K. H., of Nether Place, Mauchline
 1904 Canch, Thos. Richard, Portland Estate Office, Kilmarnock
 1906 Clark, Alex., Anchenlongford, Sorra
 1857 Clark, William, Shawhill, Monkton
 1905 Clark, William Donald, Currah, Girvan
 1877 Cochran, James, Castle Market Hotel, Ayr
 1899 Cochran, John, Nethercraig, Cross-house, Kilmarnock
 1906 Coldwell, James, Coochhill, Dundonald
 1902 Corbett, A. Cameron, of Rowallan, M.P., Kilmarnock
 1897 Craig, James, Cunning Park, Ayr
 1896 Crawford, Jn., Manraehed, Beith
 1905 Crawford, Robt., Drumbeg, Maybole
 1897 Crawford, Thomas, Dowhill, Girvan
 1878 Cross, Alex., of Knockdon (19 Hope Street, Glasgow)
 1901 Cuthbertson, John, National Bank Buildings, Kilmarnock
 1889 Dempster, Jas. B., of Ladyton, Galston
 1905 Dobbie, John, Alloway Street, Ayr
 1903 Donald, John H., Sornbeg, Galston
 1896 Donald, Thomas, Annandale, Kilmarnock
 1899 Donald, William, Fardishill, Kilmarnock
 1899 Douglas, Thos. A., M.R.C.V.S., Kilmarnock
 1907 Douglass, Mungo, Wester Hillhouse, Riccarton, Kilmarnock
 1901 Drummond, Robert, Poeknave, Hurlford
 1901 Drummond, B. J., West of Scotland Agricultural College, Kilmarnock
 1887 Dunlop, And. T. L., Lyonston, Maybole—*Free Life Member*
 1869 Dunlop, Gabriel, Castle Farm, Stewarton
 1895 Dunlop, James, Midland, Kilmarnock
 1905 Dunlop, James, Oldhall, Fenwick
 1875 Dunlop, Quintin, Morriston, Maybole
 1904 Dunlop, Quintin, jun., Greenan, Ayr
 1897 Dunlop, William, Dunure Mains, Ayr
 1889 Dunlop, Wm. Hamilton, of Doonside, Ayr
 1907 Dykes, James, Hillhouse, Dundonald
 1897*Eglinton and Winton, Earl of, Eglinton Castle, Irvine
 1889 Fergusson, John B., Balgarth, Ayr
 1897 Forrest, Robert, Knockinlaw, Kilmarnock
 1875 Foulds, A. R., of Clerkland, Stewarton
 1891 Fraser, M. P., Rankinston, Ayr
 1897 Gairdner, D. C., Union Bank, Kilmarnock
 1901 Gairdner, Wm. Cecil, Union Bank, Kilmarnock
 1898 Gemmell, Alexander, Solicitor, Ayr
 1885 Gemmell, Andrew, Lugton Ridge, Beith

Admitted

- 1875 Gemmell, G. C., Upper Whitehaugh Muirkirk
 1904 Gemmell, William, Auctioneer, Kilmaurs
 1904 Gibson, John, Dalscaith, Fenwick
 1881 Glasgow, The Earl of, Kelburn, Fairlie
 1906 Goldie, David, Little Shewalton, Irvine
 1894 Gray, William, Carmel Cottage, Kilmaurs
 1890 Hamilton, Claude, Sundrum, Ayr
 1858 Hamilton, Hugh, of Pinnore, Daljarrock, Ayrshire
 1903 Hamilton, James, Langmuir House, Kilmaurs
 1897 Hamilton, James, Nether Wellwood, Muirkirk
 1865 Hamilton, J., Hafton, London Road, Kilmarnock
 1889 Hannah, John M., Girvan Mains, Girvan
 1902 Hay, John, 8 Rennie Street, Kilmarnock
 1878 Hay, J. F. Dalrymple, Dunlop House, Dunlop
 1872 Hazle, Alexander, Merchant, Ayr
 1874 Henderson, Richard, Portland Estate Office, Kilmarnock—*Free Life Member*
 1897 Hendrie, John, Union Bank, Galston
 1897 Hendrie, Robt., Gilfoot, Newmilns
 1865 Houldsworth, J. M., Ayr
 1899 Houldsworth, W. T. R., Goodham, Kilmarnock
 1876 Howatson, W. M. S., Carskeoch, Patna
 1885 Howatson, Chas., of Glenbuck, Glenbuck
 1895 Howatson, Chas. Nile, yr. of Glenbuck, Glenbuck, N.B.
 1897 Howie, James, Hillhouse, Kilmarnock
 1897 Howie, John, 58 Alloway Street, Ayr
 1857 Howie, John, Hurlford, Kilmarnock
 1894 Howie, M. G., Law Farm, Dreghorn
 1889 Howie, Thomas, Fairfield Mains, Monkton, Ayr
 1899 Howie, Thos. jun., Maxwood, Galston
 1897 Howie, William, Burnhouses, Galston
 1903 Hunter, Arch., Implement Works, Maybole
 1867 Hunter, David, 8 Barns Terrace, Ayr
 1899 Hunter, John S., Foulton, Monkton
 1895 Hunter, Matthew, Adamhill, Craigie, Kilmarnock
 1905 Hunter, R. H., Knocklandside, Kilmaurs
 1907 Hussey-Freke, A. Syre, Annick Lodge, Irvine
 1897 Hyslop, William, Knockyloid, Barrhill
 1904 Hyslop, William, of Bank, New Cumnock
 1895 Inglis, Chas. D., Stair House, Tarbolton Station
 1877 Inglis, Robert, Loveston House, Girvan
 1885 Johnstone, James, Alloway Cottage, Ayr
 1888 Kennedy, James, of Doonholm, Ayr
 1902 Kennedy, Norman, Doonholm, Ayr
 1895 Kennedy, Roland F., of Finnarts, Glenapp, Ballantrae
 1897 Kerr, John, Collennan, Troon
 1897 Kerr, William, Houdstone, Girvan
 1896 Kilpatrick, James, Craigie Mains, Kilmarnock
 1889 King, Robert A., Ayr
 1892 Knox, Sir James, Place, Kilbirnie
 1897 Laidlaw, T. K., Barns House, Largs
 1895 Lees, Robert, Legg, Ayr
 1907 Leggat, John Morison, Portland Estate Office, Kilmarnock
 1885 Lindsay, John, Semple House, Stewarton
 1895 Lindsay, Thomas C., Aitkenbrae, Monkton, Ayrshire
 1889 Littlejohn, James, Genoch, Ayr
 1897 M'Candie, Donald, Ayr Road, Cumnock
 1874 M'Connell, Wm., of Knockdolian, Girvan
 1905 M'Cubbin, Wm. D., Lochlands, Maybole

Admitted

- 1906 M'Intyre, Edward, Park View Stud Farm, Giffen, Beith
 1906 M'Intyre, James, Park View Stud Farm, Giffen, Beith
 1887 M'Jannet, Archibald C., Irvine
 1906 M'Kay, Thomas, Springbank, Monkton, Ayr
 1896 Mackie, Peter Jeffrey, Glenfairn Lodge, Ayr
 1906 Mackinnon, Thos. Nell, of Lanfine, New Milns
 1877 Marshall, John, Implt. Maker, Maybole
 1899 Maxwell, William, Sparnebank, Galston
 1896 Meikle, John, Auchincruive Estate Office, Mounthamilton, Ayr
 1886 Middlemas, Wm., Solicitor, Kilmarnock
 1903 Middleton, James, Estate Office, Braehead, Kilmarnock
 1897 Millar, William, Nile Court, Ayr
 1893 Mitchell, James, Middlefield, Muirkirk
 1897 Mitchell, Matthew, Milton, Galston
 1906 Mitchell, William, Grougar Mains, Kilmarnock
 1893 Morton, Alexander, Gowankbank, Darvel
 1892 Morton, William, Highbowhill, Newmilns
 1897 Muir, Gilbert, Knockdon, Maybole
 1897 Murchland, William, Bank Street, Kilmarnock
 1897 Murray, John, Carston, Ochiltree
 1904 Neill, James, Barleith, Hurlford, Ayrshire
 1900 Neill, Thomas, Shawhill House, Hurlford, Kilmarnock
 1897 Neilson, Walter, Evenfield, Ayr
 1906 Nisbet, James, Implement Maker, Dundonald
 1884 Niven, Richard, Airlie, Ayr
 1870 Oswald, Rich. A., of Auchincruive, Ayr
 1897 Page, Andrew D., Culzean Home Farm, Maybole
 1907 Paterson, Wm., Wellpark, Kilmarnock
 1897 Paton, A. B., Hareshawmuir, Kilmarnock
 1888 Paton, Hugh (W. Samson & Co.), Kilmarnock
 1899 Paton, B. Johnston (W. & T. Samson), Kilmarnock
 1897 Pearson, J. M., C.E., 5 John Dickie Street, Kilmarnock
 1900 Pollock, Alex., Tarbolton
 1906 Pollock, Andrew, Engineer, Mauchline
 1889 Pollock, R. M., of Middleton, Ayr
 1896 Reid, David H., Engineer, Ayr
 1898 Richmond, Robt., c/o George Richmond, 18 Heathfield Road, off Prestwick Road, Ayr
 1901 Robertson, Alex. B., The Dean Road, Kilmarnock
 1902 Robertson, Philip, M.R.A.C., Sandhills, Monkton, Ayrshire
 1899 Roxburgh, John, Grain Merchant, Mauchline
 1906 Scott, C. C., of Halkhill, Largs
 1906 Scott, David, Dumfries House, Cumnock
 1903 Scott, Frank, Dumfries House Mains, Cumnock—Free Life Member
 1906 Scott, Robt., Boghead, Girvan
 1898 Shaw, D. W., 5 Wellington Square, Ayr
 1906 Shaw, Jas. Edward, County Clerk, Ayr
 1898 Shields, Major J., Glenrosa, Newmilns
 1903 Smith, John, Kilmaurs Mains, Kilmaurs
 1899 Smith, Robert, Shields, St Quivox, Ayr
 1897 Smith, Robert, The Grange, Kilmarnock
 1880 Smith, Thomas, The Castle, Maybole
 1906 Smith, William, Brownlee, Dundonald
 1882 Somervell, James, of Sorn, Mauchline
 1879 Speir, Robert, Roebank, Largs

Admitted

- 1906 Spiers, John, Dyke, Symington, Ayr
 1905 Steel, John, Alton Albany, Barr
 1904 Steele, John, Shaw, Kilmaurs
 1895 Steven, John, Purroch, Hurlford, Kilmarnock
 1885 Stevenson, Allan, Architect, Ayr
 1907 Stevenson, A. M., Jeanfield, Symington, Kilmarnock
 1883 Stevenson, David, Silverwood, Kilmarnock
 1906 Stevenson, Robt., Boghead, Galston
 1888 Stevenson, John, Woodland, Girvan
 1894 Tannahill, Robert D., National Bank Buildings, Kilmarnock
 1876 Taylor, H., Kaimshill, Hurlford, Kilmarnock
 1906 Taylor, William, Fortaces, Dundonald
 1882 Thornycroft, J. B., Netherplace, Mauchline
 1886 Tivendale, Wm. D., Burnhouse, Galston
 1904 Turner, Fred. John, jun., Cessnock, Galston
 1884 Turner, J. H., Portland Estate Office, Kilmarnock
 1904 Tyre, James, Templeton, Dundonald
 1867 Vernon, Hon. G. R., Auchans House, Kilmarnock
 1887 Wallace, H. R., Cranston Lodge, Ayr
 1875 Wallace, Robt., Auchinbrair, Mauchline
 1895 Wallace, William, Cattle Dealer, Mauchline
 1903 Wardrop, Patrick, Old Garlaff, Cumnock
 1897 Watson, Alex., Barboigh, Sorn, Galston
 1868 Weir, W., of Kildonan, Shewalton, Dreg-horn
 1889 Whyte, Robert, East Raws, Kilmarnock
 1882 Willison, Alex., Easterhill, Dalry
 1873 Willison, George, Carshead, Dalry
 1906 Wilson, Jas., Ashmark, New Cumnock
 1897 Wilson, Robert, jun., Westwood, Dunlop
 1905 Woodburn, Robt., Whitehill, Hurlford
 1884 Wyllie, Alex., Holmbyre, Dalry
 1903 Wyllie, James, Mayfield, Stevenston
 1903 Young, Alex., Muirhouse, Crosshouse, Kilmarnock
 1898 Young, David, Hutton Park, Largs
 1907 Young, Hugh, Newfield Mains, Dundonald
 1896 Young, H. S. M., Heathfield, Irvine
 1901 Young, James, Festland, Dundonald
 1901 Young, William, Skerrington Mains, Hurlford

BUTE.

- 1870 Allan, James, Balnacoolie, Shiskine, Arran
 1897 Bannatyne, John, The Hotel, Lamlash
 1907 Brown, William, Shedock Farm, Shiskine, Arran
 1903 Bute, Marquis of, Mount Stuart, Rothesay
 1906 Crawford, Peter, Torrylinn, Kilmorie, Arran
 1897 Crawford, Robert, Glenscorrodale, Lamlash
 1889 Dickie, Wm. P., Cranslagvourty, Rothesay
 1897 Douglas, A. H., Arran Estates Office, Brodick
 1897 Fisher, Jas., Grain Merchant, Rothesay
 1900 Forsyth, R. W., Corrie, Arran
 1889 Gilmour, Thomas, Kilchattan Tile Works, Rothesay
 1897 Hunter, William, Glenkiln, Lamlash
 1906 Inglis, Wm., Forester, Gladoch, Brodick
 1902 Lochhead, Thomas, Gildavanan, Rothesay

Admitted

- 1889 M'Alister, Robert, Mid Asceog, Rothesay
 1889 MacAlister, James, Melkie Kilmory, Rothesay
 1889 Macfie, Hugh, Ardbeg, Rothesay
 1889 Macfie, John, Strathford, Ardbeg, Rothesay
 1881 M'Intyre, William, Mount Stuart, Rothesay
 1878 Mackay, Arch. M., Bruchag, Rothesay
 1900 Mackay, John, Barons Park, Bute
 1900 M'Millan, Alistair, Lochranza, Arran
 1876 M'Pherson, Don., Queen's Hotel, Rothesay
 1907 Martin, John G., Brandon, Brodick
 1902 Martin, Mrs J. G., Brandon, Brodick
 1906 Montgomery, Alex., Auchinteerie, Rothesay
 1897 Morton, John, Machrie, Shiskine
 1897 Robertson-Fullarton, A. L. F., of Kilmichael, Brodick (201 Bath Street, Glasgow)
 1907 Speare, Alex. C., Clachaig, Kilmorie, Arran
 1906 Stuart, Henry Campbell, Rhubodach, Colinton
 1902 Sweet, J. B., Bank of Scotland, Lamlash
 1887 Wallace, John, Glenkill, Lamlash

LANARK.

- 1897 Aikman, Colonel Thos. R., The Ross, Hamilton
 1906 Aitkenhead, George, Lochinch, Govan
 1875 Alexander, Jas., 145 North Street, Glasgow
 1908 Alexander, James Y., 19 Hope Street, Glasgow
 1884 Allan, Alex., Waddiefield, Hamilton
 1906 Allison, Thomas, Carnwath Mill Farm, Carnwath
 1906 Alston, James T. R., Hyndford, Lanark
 1870 Andrew, W. J., Banker, Coatbridge
 1907 Baillie, Robt., Morningside Farm, New Mains
 1887 Bain, W. P. C., Lochrin Iron Works, Coatbridge
 1906 Baird, Douglas, Torrance Hotel, East Kilbride
 1906 Baird, William, Gallowhill, Carmunnock
 1906 Ballantyne, James, Blythbank, Dolphinton
 1906 Ballantyne, James, Straven House, Carluke
 1907 Barr, Andrew, Headmuir, Carluke
 1886 Barr, Duncan C., Factor, Hamilton
 1908 Barr, James, British Linen Co. Bank, Carluke
 1906 Barr, John Bant, of Blackwood, Kirkcubright
 1906 Barrie, James, of Mossplatt, Carstairs
 1906 Bartleman, Archd. Blythe, Dolphinton
 1882 Beckett, C. R., Rockville Oil Mills, Port Dundas
 1900 Begg, Hugh, V.S., East Kilbride
 1882 Bertram, Major Wm., of Kerswell, Carnwath
 1906 Black, John, Robertson Mains, Dolphinton
 1900 Blair, Alex., 198 West George Street, Glasgow
 1900 Blair, David, Maidslie Mains, Carluke
 1900 Boulas, Henry Brown, Banker, Carluke
 1906 Boreland, John, Tile Manufacturer, Stonehouse
 1906 Boyd, Gavin, Newhouse, Lanark
 1904 Brass, Andrew M., Biggarshiels, Biggar

Admitted

- 1881 Brock, H., V.S., 118 North Street, Glasgow
 1906 Brown, Harold G., of Corniston, Biggar
 1898 Brown, James, Merryton, Hamilton
 1891 Brown, John, Hillhead, Airdrie—Free Life Member
 1906 Brown, Joseph, High Merryton, Larkhall
 1897 Brown, Peter S., Bothwell Park, Bothwell
 1896 Brown, Robert, Craighead, Bothwell
 1898 Brown, William D., Photographer, Lanark
 1901 Brownlie, John, Garrison Grain Mills, Wishaw
 1905 Buchanan, James, 65-67 Elcho Street, Graham Square, Glasgow
 1876 Buchanan, Capt. J. R. G., of Scotstone, Eastfield House, Cambuslang
 1900 Cadzow, James, Stonehill, Crawfordjohn, Abington
 1884 Cadzow, Robt., Weston, Dunsyre, Carstairs Junction
 1906 Calderwood, Andrew, Righhead, East Kilbride
 1906 Caldwell, James C., Hollylea, Craighead Road, Govan
 1897 Cameron, John J. (A. & J. Main & Co.), Glydesdale Ironworks, Fossilpark, Glasgow
 1904 Campbell, James (Campbell Gas Engine Co.), 104 Bath Street, Glasgow
 1894 Carmichael, M. T., of Eastend, Thackerston
 1906 Carnegie, Wm., 47 St Vincent Street, Glasgow
 1906 Carruthers, Andrew, Netherthorn, Auchenheth, Hamilton
 1899 Carruthers, James Richardson, 70 King Street, Tradeston, Glasgow
 1906 Chapman, Robert, Johnston Farm, Gartcosh
 1906 Chapman, William A., Meadowhead, Airdrie
 1882 Chapman, William W., Meadowhead, Airdrie
 1898 Chislett, Charles, Chemist, Lanark
 1887 Christie, T. C., of Bedley, Chryston
 1889 Clark, Alexander, Todlaw, Lesmahagow
 1869 Clark, Mathew, 39 Westbourne Gardens, Kelvinside, Glasgow
 1906 Clark, W. S., Thornhill, Wishaw
 1869 Clarke, John, Hamilton
 1898 Clarkson, James, Fret's Mill, Lanark
 1888 Clement, And., Cheese Merchant, Glasgow
 1899 Oochrane, James, Brownside, Strathaven
 1890 Colquhoun, Lord, of Crawford, Abington
 1874 Colquhoun, Rev. J. E. Campbell, of Killermont, Maryhill
 1906 Connell, Mathew, Agricultural Implement Maker, Carmunnock
 1906 Connell, Mathew, jun., Agricultural Implement Maker, Carmunnock
 1876 Coudbrough, Wm., Sornfallow, Wiston, Biggar
 1873 Cowan, James, 23 St Vincent Place, Glasgow
 1892 Cowie, W. R., 93 Hope Street, Glasgow
 1905 Craig, A. Blackburn, 97 Maxwell Drive, W., Bellahouston, Glasgow
 1888 Craig, John, High Ploughland, Darvel
 1884 Cranston, Stuart, 28 Buchanan Street, Glasgow
 1897 Crichton, David, Bank of Scotland, Coatbridge
 1906 Cromb, John Burns, Clerk of Works, The Palace, Hamilton

Admitted

- 1906 Cross, P. A. Munro, 14 Woodlands Terrace, Glasgow
 1908 Cross, Wm. C., 19 Hope Street, Glasgow
 1907 Cruckshank, John Erskine, 217 St Vincent Street, Glasgow
 1898 Crum, William Graham, Thornliebank, Glasgow
 1905 Cumming, James, Grain Merchant, Lanark
 1897 Curr, Wm. Henry, W.S., 226 West George Street, Glasgow
 1870 Davidson, Hugh, of Braedale, Lanark
 1894 Davidson, Wm., Gateside, Douglas
 1899 Dawson, Wm. (Anderston Brewery), 79 Hill Street, Glasgow
 1895 Dennistoun, A. H. O., of Golfhill, Glasgow (Glenmore, Aviemore)
 1905 Dick, John, Carnbroe Mains, Bellahill
 1884 Dick, John P., c/o McClure, Naismith, & Brodie, 77 St Vincent Street, Glasgow
 1899 Dickie, Robert, c/o J. & W. Wallace, 279 Gallowgate, Glasgow
 1905 Dickie, Wm., sen., Victoria Works, East Kilbride
 1905 Dickson, Andrew, Castlehill, Carmunnock
 1905 Dickson, John B., Auchren, Lesmahagow
 1905 Dobie, Robert, Garrison Haugh, Wishaw
 1905 Donald, George, Braehead, Strathaven
 1904 Donald, John, 38 North Wallace Street, Glasgow
 1905 Douglas, Charles, Auchlochan, Lesmahagow
 1906 Duncan, George T. (Tangyes, Ltd.), 111 Hope Street, Glasgow
 1889 Dunn, Richard, Uddston, Hamilton
 1899 Dykes, J., Jun., 162 Buchanan Street, Glasgow
 1905 Dykes, Thomas, Priestgill, Strathaven
 1887 Elliot, William, Auction Mart, Lanark
 1900 Ferguson, Alex., of Clelland, Clyde Chambers, 63A St Vincent St., Glasgow
 1897 Ferguson, James, Butcher, St George's Cross, Glasgow
 1903 Findlater, George, Jerviswood Mains, Lanark
 1888 Findlay, John, Gonar, Abington, N.B.
 1884 Findlay, John, Springhill, Bellieston
 1897 Findlay, John W., Estates Office, Bank Street, Airdrie
 1898 Findlay, M. F., 19 Cadogan Street, Glasgow
 1861 Fleming, Alex., Raith, Bothwell
 1900 Fleming, Alex., Wolklyde, Biggar
 1899 Fleming, And., West Mains, Newbigging, Carnwath
 1867 Fleming, David, Avonmill, Hamilton
 1888 Fleming, David, Castleton, Rutherglen
 1905 Fleming, Jas., Meadowflat, Thankerton
 1882 Fleming, James, Muirside, Carmunnock
 1870 Fleming, J., Meadowbank Cot., Strathaven
 1905 Fleming, Stephen, Raith Farm, Bothwell
 1906 Fleming, William, Bogton, Torrance
 1906 Fleming, William, Fisherton, Rutherglen
 1905 Fleming, William, Corbiehall, Lanark
 1882 Fleming, Wm., Windlaw, Carmunnock
 1895 Fleming, William, Calla, Carnwath
 1905 Forrest, James, Woodhall, Bishopbriggs
 1905 Forrest, James F., Woodhall, Bishopbriggs
 1903 Forrest, John, Brewshott, Carnwath
 1906 Forrest, Mat. Harry, Woodhall, Bishopbriggs
 1907 Forsyth, R. W. Hillend, Robertson, Abington

Admitted

- 899 Fraser, D. Speirs, 15 Eglinton Street, Glasgow
 1899 Fraser, Geo. J. J. H. G., Factor, Dalsell Farm, Motherwell
 1877 French, James, Netherthorn, Abington
 1883 Galloway, A. W., Molassine Co., Ltd., 135 Hope Street, Glasgow
 1898 Galloway, Thomas, Balgray House, Kelvin-side, Glasgow
 1900 Galloway, Wm., Braxfield Road, Lanark
 —Free Life Member
 1905 Garraway, Andrew B., Law Muir, East Kilbride
 1878 Gibb, John, Midtown, Carlisle
 1897 Gibson, Richard, Kirkton St., Carlisle
 1905 Giffen, Andrew, Baltic Chambers, 3 Cadogan Street, Glasgow
 1905 Giffen, W. R., Baltic Chambers, 3 Cadogan Street, Glasgow
 1891 Gilchrist, John, Orbiston Mains, Bellahill, Glasgow
 1905 Gilhes, Alex., North Brackenridge, Lesmahagow
 1877 Gillies, Wm., 23 University Gardens, Glasgow
 1888 Gilmour, Allan, of Eaglesham, Glasgow
 1882 Gilmour, Arthur, Crosshill, East Kilbride
 1905 Gilmour, John, 24 Pollok Street, Glasgow
 1901 Glen, Robert, Carlston, Kelvin-side, Glasgow
 1894 Glen, William, 32 Berkeley Terrace, Glasgow
 1877 Goff, Dr Bruce, The Lindens, Bothwell
 1887 Goodwin, John, Clyderiew, Motherwell
 1893 Gordon, Henry Erskine, of Aikenhead, Cathcart
 1905 Goulding, Joseph, Dalpatrick, Carlisle
 1888 Gow, Andrew, Factor, Wishaw
 1888 Graham, William, 6 Royal Crescent, W., Glasgow
 1878 Grahame, Jas., Western Club, Glasgow
 1907 Gray, John, New Stevenson, Holytown
 1867 Greenshields, J., West Town, Lesmahagow
 1906 Greenshields, James John, of Kerse, Lesmahagow
 1907 Greenshields, John B., West Town, Lesmahagow
 1897 Grierson, Adam, New Cross, Strathaven
 1898 Gunn, Edmund J., 186 West George St.
 1888 Gunn, John, 298 Dennistoun Gardens, Cumberland Road, Glasgow
 1897 Guthrie, D. W., 87 Kingsborough Gardens, Glasgow
 1864 Haddow, Robert, Castle of Crawford, Abington
 1906 Hamilton of Dalsell, Lord, Dalsell, Motherwell
 1895 Hamilton, O. G. Henderson, of Dalsell, Netherburn
 1897 Hamilton, D., M.R.C.V.S., Bourtreehill, Hamilton
 1889 Hamilton, Gavin, B. L. Co. Bank, Lesmahagow
 1896 Hamilton, George L., 25 Robertson St., Glasgow
 1897 Hamilton, James, Aldersyde, Uddingston
 1905 Hamilton, James, Shawton, Chapelton, Hamilton
 1869 Hamilton, James, Avondale, Albany Drive, Lanark
 1881 Hamilton, James A., 11 Hayburn Street, Partick
 1906 Hamilton, James Brown, Foniell, Douglas
 1905 Hamilton, John, Deadwaters, Kirkmuirhill
 1900 Hamilton, John, Mains, East Kilbride

- Admitted
1870 Hamilton, John Nisbet, Coulter,
—
1905 Hamilton, Matthew G., Woolfords, Cob-
binshaw
1898 Hamilton, Robert, Low Motherwell,
Motherwell
1905 Hamilton, Samuel, National Bank, Car-
luke
1897 Hamilton, T. B., M.R.C.V.S., 185 Queen's
Drive, Glasgow, S.S.
1906 Hamilton, Wm., Drumclog, Strathaven
1905 Hamilton, William, Easterseat, Carluke
1905 Hamilton, William, Moat Mains, Les-
mahagow
1908 Harper, P. Rankin, Permanent Nitrate
Committee, 191 West George Street,
Glasgow
1871 Harris, William, 1 Edmiston Drive,
Ibrox, Glasgow
1897 Hart, F. Campbell, C.E., 184 St Vincent
Street, Glasgow
1897 Hastie, David, Stonefield Farm, Blantyre
1905 Hastie, John, Eddlewood, Hamilton
1905 Hastie, Peter, Stonefield, Blantyre
1905 Henderson, Joseph, Meikle Dripps,
Thorntonhall
1906 Henderson, Robert Holmes, Cornsilloch,
Netherburn, Hamilton
1897 Hill, Thos., 86 Robertson St., Glasgow
1901 Hope, Thos., South Brownhill, Strath-
aven
1898 Howatson, R. B., 180 West Regent Street,
Glasgow
1897 Howie, Robert (P. & R. Fleming & Co.),
St Germain's, Bearsden, Glasgow
1904 Howie, Robt., 21 Hope Street, Glasgow
1905 Hunter, Alex. N., 69 Mitchell Street,
Glasgow
1899 Hunter, William, Craighead, Abington
1896 Irie, Peter, Blackhill, Maryhill, Glas-
go
1878 Jack, John, Howburn, Walston, Biggar
1855 Jack, Robt., Banker, Motherwell
1899 Jack, Robt., Implement Agent, Hynd-
ford Place, Lanark
1897 Jackson, George, Woodhead, Chryston,
Glasgow
1900 Jardine, W. C., 20 Doune Terrace, North
Kelvinside, Glasgow—*Free Life Member*
1908 Johnston, George, jun., Potato Merchant,
Airdrie
1905 Johnston, James, Allerstocks, Strath-
aven
1908 Johnstone, Robt., jun., Turnberry,
Cardonald, nr. Glasgow
1893 Kennedy, M. H., 23 Kingsborough Gar-
dens, Kelvinside, Glasgow
1899 Kerr, Alex. Leopold, 1 Westbank Quad-
rant, Hillhead, Glasgow
1898 Kerr, James, Bloomgate, Lanark
1905 Kerr, Matthew, Estate Office, Hamilton
1902 Kerr, Norman M., 18 Atholl Gardens,
Kelvinside, Glasgow
1857 Kerr, Robert, 1 Westbank Quadrant,
Hillhead, Glasgow
1899 Kerr, Thomas B. R., 1 Westbank Quad-
rant, Hillhead, Glasgow
1901 Kerr, Wm. Holmes, 79 St George's Place,
Glasgow
1900 King, John W., yr. of Campsie, Stan-
more, Lanark
1869 King, Robert, Leverholm, Hurler
1905 Knox, John, North Hill of Dripps,
Thorntonhall
1906 Kufaka, Hans F., c/o Nutrimol Feed Co.,
67 Hope Street, Glasgow
1907 Kirkwood, Charles, F.S.I., 67 West
Regent Street, Glasgow
1891 Laidlaw, John, 98 Dundas Street, Glas-
gow, S.S.
- Admitted
1882 Lamberton, Andrew, Sunnyside Works,
Coatbridge
1884 LAMINGTON, Lord, Lamington House
1895 Lawrie, James, West Newton, Strath-
aven, Lanarkshire
1896 Lawrie, John M., 204 Elliot Street,
Glasgow
1902 Lawson, Quintin Y., 37 West George
Street, Glasgow
1904 Leadbetter, Thos. G., of Stobieside, Ed-
monston, Biggar
1898 Leiper, Robert, Yarbent, Strathaven
1872 LOCKHART, Sir S. M., of Lee and Carn-
wath, Bart., Lanark
1870 Lockhart, Wm. Elliott, of Oleghorn,
Lanark
1906 Logan, John, 197 Dumbarton Road,
Glasgow
1898 Logan, Robert J., Newmains, Carn-
wath
1885 M'Alpine, A. N., Glasgow and West of
Scotland Technical College, 6 Blyths-
wood Square, Glasgow—*Botanist to
the Society*
1905 M'Arthur, John, 202 Hunter Street,
Glasgow
1905 MacAnlay, John, Rogerton, East Kil-
bride
1868 M'Call, Principal J., Veterinary College,
Glasgow
1906 MacColl, Duncan, 80 Paisley Road
West, Glasgow
1899 M'Cowan, Robert, Bank of Scotland,
Strathaven
1899 M'Culloch, David, The Inn, Forth,
Lanarkshire
1902 M'Ontocheon, James, F.C.S., 6 Blyths-
wood Square, Glasgow
1888 Macdonald, Donald, c/o J. W. Macdonald,
51 Ashton Terrace, Hillhead, Glasgow
1906 Macdonald, D., Kilbucko House, Biggar
1884 M'Farlane, John, 151 North Street, Glas-
gow
1905 M'Fest, John, Abbotshaugh, Pollok-
shields, Glasgow
1897 MacGregor, James (P. & R. Fleming &
Co.), Argyle Street, Glasgow
1872 M'Indoe, James, Stromecraig, Dunoon
1884 M'Intosh, James, 6 Barrington Drive,
Glasgow
1896 M'Kinlay, Robert, Hillhouse, Sandi-
lands, Lanark
1894 M'Kirdy, W. A. Scott, of Birkwood, Les-
mahagow
1873 M'Lachlan, Colin, 8 Morriston Gardens,
Bank Street, Cambuslang
1876 MacIae, A. Crum, of Cathkin, 149 St
Vincent Street, Glasgow
1905 M'Lean, Arch., Midtown of Blackwood,
Lesmahagow
1888 MacLellan, Robert, Conservative Club,
Glasgow
1900 M'Leod, William, Rosebank, Maryhill
1896 M'Meehan, James, Mossbank, Dum-
breck, nr. Glasgow
1896 M'Min, Thomas M'C., 76 Hill Street,
Glasgow
1882 M'Neillage, A., 98 Hope Street, Glasgow
1896 M'Neill, John, 1 Great Western Terrace,
Glasgow
1875 M'Pherson, D., 21 Onslow Square, Den-
nistoun, Glasgow
1906 M'Quat, W. W., V.S., Biggar
1884 M'Queen, Hope, Midlock, Abington
1906 M'Sorley, F., 44 Jamaica Street, Glas-
gow
1879 Main, R. B. (A. & J. Main & Co.), Fossil
Park, Glasgow
1900 Mair, John, Carrick Lodge, Mount
Vernon, Lanarkshire

Admitted

- 1904 Maltman, W. P., 19 Hope Street, Glasgow
 1899 Marshall, Arch., Auctioneer, Carlisle
 1889 Marshall, James, Airbles, Motherwell
 1897 Marshall, Peter T. (Jack & Sons), 20 Graham Square, Glasgow
 1906 Marshall, Richard, Whitecraighead, Cleland, Motherwell
 1906 Martin, James, Burnside, Strathaven
 1906 Martin, John Douglas, 19 Hope Street, Glasgow
 1898 Martin, Robert, Commercial Bank, Lauriston, Glasgow
 1905 Maxwell, David, Clydesdale Hotel, Glasgow
 1906 Meikle, James, Netherlea Farm, Lanark
 1905 Meikle, Thomas, Farne, Glassford, Strathaven
 1884 Millar, John, 16 St Vincent Place, Glasgow
 1892 Millar, John, Fern Hill, Cathkin, Rutherglen
 1904 Miller, J. C., 138 West George Street, Glasgow
 1906 Milne, James, Carstairs Mains, Carstairs Junction
 1907 Mitchell, David, 24 St Vincent Place, Glasgow
 1885 Mitchell, James, Auchengray House, Airdrie
 1905 Mitchell, James, Muirhouse, Kirkmuirhill
 1894 Mitchell, John, 18 Shaftesbury Street, Glasgow
 1888 Mitchell, Robt., M.R.C.V.S., 18 Shaftesbury Street, Glasgow
 1894 Mitchell, Robert, jun., 18 Shaftesbury Street, Glasgow
 1905 Mitchell, William, Hazelside, Douglas
 1905 Mitchell, Thomas, Nathanfoot, Crossford, Carlisle
 1905 Montgomery, John, Dalserf Estate Office, Netherburn
 1898 Moore, Wardrop, yr. of Greenhall, Blantyre
 1875 Morton, J., Whelphill, Abington
 1905 Morton, James, East Dykes, Strathaven
 1897 Morton, Robert, Rosemont, Lanark
 1859 Mosman, H., of Auchtyfardie, Lesmahagow
 1905 Motherwell, And., Hay and Grain Merchant, Gorbals, Glasgow
 1906 Moyes, John, 115 Bothwell Street, Glasgow
 1906 Muirhead, John, Kilbuck Place, Biggar
 1874 Muirhead, William, Holmhill, Uddingston
 1904 Munro, John M., The Grange, Maxwell Park, Glasgow
 1905 Murdoch, Alex., C.A., 94 Hope Street, Glasgow
 1875 Murdoch, Alexander, Carlton House, Douglas Gardens, Uddingston
 1888 Murdoch, James, Gartcraig, Shettleston
 1905 Murdoch, James, Hanghead, Uddingston
 1875 Murdoch, John, Carnryna, Shettleston
 1905 Murdoch, Robt., West Hallside, Newton, Glasgow
 1898 Murdoch, William, 8 Eglinton Lane, Glasgow
 1905 Murdoch, Wm., East Hallside, Newton
 1894 Murray, James, Low Ploughland, Darvel
 1862 Murray, John L., of Heavyside, Biggar
 1905 Murray, Joshua, Parkhall, Douglas
 1874 Murray, Robert G., of Spittal, Biggar
 1903 Murray, T. B., Redsyke, Biggar
 1904 Myles, A. W., Town Clerk, Glasgow
 1875 Napier, John S., of Lethame, Strathaven

Admitted

- 1867 Neilson, William, Bank of Scotland, Bellshill
 1898 Nelson, T. C., Live Stock Agent, Bellgrove Street, Glasgow
 1889 Newbigging, Thomas, Park House, Carstairs Junction
 1897 NEWLANDS, Lord, Mauldslie Castle, Carlisle
 1900 Pate, James, West Browncastle, Strathaven
 1905 Pate, Thomas, Muirland, Lesmahagow
 1906 Paterson, George Rankin, Drumalbin, Thankerton
 1884 Paterson, James, jun., Over Abington, Abington
 1882 Paterson, John, Caudy Cottage, Biggar
 1887 Paterson, John, of Torfoot, Strathaven
 1906 Paterson, M., 140 Houldsworth Street, Glasgow
 1896 Paterson, William, Gientaggart, Douglas
 1884 Paterson, Wm., Grange, Thankerton
 1885 Paton, James, Glencaple, Abington
 1905 Pearson, Douglas, Rock Villa Oil Mills, Port Dundas
 1905 Pettigrew, James, jun., Bogside, Newmains
 1889 Pollock, James, V.S., Hamilton
 1884 Pollock, W., Yoker Mains, Glasgow
 1903 Pooley, John S., 69 M'Alpine Street, Glasgow
 1907 Prentice, Archd., Balstone, Carlisle
 1900 Prentice, James, Carolside, Uddingston
 1899 Prentice, Thomas, Saddler, Carlisle
 1892 Reiston, Chas. W., Cairnhill, Bearden
 1906 Ramsay, Robert, Walstonfoot Farm, Newmains
 1898 Rankin, William B., of Cleddans, Airdrie
 1882 Ratray, Patrick, C.A., 116 St Vincent Street, Glasgow
 1898 Reid, C., Photographer, Wishaw
 1905 Reid, Dr John, Greenhill Cottage, Forth, Lanark
 1902 Reith, Alex., Earnock Estate Office, Hillhouse, Hamilton
 1901 Rennie, Jos., Hillend, Fossil, Maryhill
 1905 Renwick, Andrew, Buchley Farm, Bishopbriggs
 1882 Renwick, Robert, Buchley, Bishopbriggs
 1905 Retson, John, Langside, Lanark
 1900 Riddell, Matthew, 438 Gallowgate, Glasgow
 1905 Ritchie, Alex., 8 Croy Place, Glasgow
 1887 Ritchie, John, Whitecastle, Biggar
 1905 Robb, Andrew, sen., F.R.C.V.S., 6 Canning Place, Glasgow
 1898 Robb, Daniel, 6 Blythwood Square, Glasgow—Free Life Member
 1882 Robb, George, 11 Garmiston Street, Glasgow
 1905 Robb, William, F.R.C.V.S., 6 Canning Place, Glasgow
 1900 Robley, W. P., 100 High John Street, Glasgow
 1898 Russel, William, Longleas, Biggar
 1894 Russell, Alexander, 54 West Nile Street, Glasgow
 1882 Russell, James, Allanton, Hamilton
 1897 Russell, John, Cleghorn Mill, Lanark
 1906 Russell, John, South Mains, Skirling, Biggar
 1907 Russell, Robt., Walston Mansion, Dun-syre, Carstairs Junction
 1889 Russell, Thos., Redlawood, Newton, Lanarkshire
 1875 Sanderson, James, West Yard Houses, Carnwath
 1897 Scott, David, Unthank Farm, Bellshill
 1907 Scott, George S., Swinstie Farm, Cleland

Admitted

- 1878 Scott, Jas., Garrion Tower, Wishaw
 1885 Scott, John, Jun., Auchinloch, Lenzie
 1897 Scott, William, Gilfoot, Carluke
 1905 Scott, William, Greenhills, East Kilbride
 1875 Scott, William, Priestfield, Blantyre
 1905 Scouller, John, 117 Drury Street, Glasgow
 1906 Shanks, Gavin, Shawhead Farm, Whitfiet
 1905 Shaw, John, Nerston, East Kilbride
 1905 Shaw, William, Nerston, East Kilbride
 1905 Shearer, Arch., Highflat, Carmunnock
 1897 Simpson, Alex. M., Whitecross Farm, East Kilbride
 1905 Simpson, Kerr A., B.L., of The Hill, Lesmahagow
 1877 Skead, George, Royal Bank, Wishaw
 1894 Sleigh, C. W., Estate Office, Blackwood, Lesmahagow
 1889 Smellie, James, Couraington, Motherwell
 1857 Smith, H., 9 Kalvinisde Terrace (North), Glasgow
 1878 Smith, Wm., 7 Balmoral Crescent, Rutherglen
 1897 Somerville, Thos. Purdie, Muirhouse, Carnwath
 1898 Somerville, John L., 2 Chatham Pl., Glasgow
 1886 Speir, John, Newton Farm, Newton, Glasgow
 1883 Stalker, Donald, Mossend Farm, Mossend, Glasgow
 1900 Stark, Thomas, Littlehills, Bishopbriggs
 1891 Steel, Matthew Taylor, 135 Buchanan Street, Glasgow
 1881 Stein, A. H., of Kirkfield, Lanark
 1889 Stevens, Hugh, Milton Iron Works, Glasgow
 1904 Stewart, David, Blantyre Park, High Blantyre
 1869 Stewart, D. W., Cardland, Lanark
 1881 Stewart, B. K., of Murdostoun, Newmains
 1905 Swoho, Alex., Bonmahill, Strathaven
 1900 Strang, William, 141 West George Street, Glasgow
 1905 Struthers, Miss Julia J., Avonholm, Glasgow, Strathaven
 1905 Struthers, James H., Auston, Dunsyre, Carstairs Junction
 1899 Struthers, Jas. O., 28 Bath St., Glasgow
 1889 Stuart, Col. Harrington, of Torrance, East Kilbride
 1906 Swan, James, Overburns and Loanhead, Lamington
 1905 Taylor, John, M.R.C.V.S., Cathkin, Rutherglen
 1906 Telford, Maxwell, 230 Broomielaw, Glasgow
 1905 Templeton, William, of Torland, Netherburn
 1861 Tennant, James, 7 Hillend Gardens, Hyndland Road, Glasgow
 1897 Tervit, John, Cranston Hill, Carlisle Road, Lanark
 1879 Thiem, A. M., Windsor Hotel, St Vincent Street, Glasgow
 1889 Thomson, A. J., of Huntfield, Biggar
 1882 Thomson, Seton, 27 St Vincent Place, Glasgow
 1884 Thomson, William, Violet Bank, Dumbreck, Ibrox
 1878 Thomson, Wm., 34 Airlie Gardens, Hyndland, Glasgow
 1875 Thomson, W. G., 118 Queen Street, Glasgow
 1905 Todd, Mrs George, 13 Park Circus, Glasgow
 1905 Todd, George, 13 Park Circus, Glasgow
 1905 Torrance, Alex., Crookedstone, Quarter
 1890 Tullis, John, Inchcape, Dennistoun, Glasgow

Admitted

- 1896 Turnbull, Wm., Daldowie, Broomhouse, Glasgow
 1882 Vere, J. O. Hope, of Blackwood, Lesmahagow
 1905 Waddell, Alex., 32 Moir Street, Glasgow
 1899 Walker, James, West Brownies Farm, Carluke
 1897 Walker, William Hamilton, Cardarroch House, Airdrie
 1907 Wallace, Duncan, Graham Square, Glasgow
 1882 Wallace, Hugh, 544 St Vincent Street, Glasgow
 1882 Wallace, John, The Ingle, Rutherglen
 1888 Wallace, Robt., Graham Square, Glasgow
 1879 Wallace, W. (John Wallace & Sons), Graham Square, Glasgow
 1907 Wallace, Wm. B., Graham Square, Glasgow
 1897 Wallace, Wm., Bellsfield House, Pollokshields, Glasgow
 1906 Warnock, Robt., Netherholm Farm, Strathaven
 1888 Watson, G. M., Baillaws, Lamington
 1897 Watson, J., National Bank, Crosshill, Glasgow
 1884 Watson, Robert, Cultarallers, Biggar
 1899 Watson, Wm., M.D., Claremont, 73 Millbrae Road, Langside, Glasgow
 1880 Watt, John, Drumgray, Airdrie
 1900 Watt, Thomas, Drumgray, Airdrie
 1905 Weir, Charles, Implement Works, Strathaven
 1877 Weir, James, Sandilands, Lanark
 1884 Weir, William C., of Weir & Robertson, 7 Royal Bank Place, Glasgow
 1905 Williamson, William, Belsiehill, Bells Hill
 1896 Willison, John, Farisholm, Douglas
 1888 Wilson, James, Westburn, Cambuslang
 1899 Wilson, James G., Dalzell Estates Office, Motherwell
 1899 Wilson, John, of Airdrie House, Airdrie
 1875 Wilson, John, Tett, Liberton, Carnwath
 1905 Wilson, Thomas M., Nether Abington, Abington
 1907 Wingate, David, Castlehill Farm, Wishaw
 1889 Wood, Alex., Woodlands, Partick
 1877 Wragg, Chas., 16 Lawrence St., Partick, Glasgow
 1882 Wright, R. Patrick, 6 Blythwood Sq., Glasgow—Free Life Member
 1905 Young, James, Greenfield, Strathaven
 1900 Young, John, Greenless, Cambuslang
 1905 Yull, Andrew, Netheride, Strathaven
 1905 Yull, Thomas, Greathill, Strathaven

RENFREW.

- 1906 Adam, John, East Walkinshaw, Renfrew
 1905 Aitkenhead, Alexander, Carnwadrick, Thornliebank
 1905 Aitkenhead, Alex., Cowglen, Pollokshaws
 1887 Alexander, F. D., Dunmyat, Bridge of Weir
 1905 Alexander, William, Driggs Mill Farm, Busby
 1884 Allan, David, M.R.C.V.S., Clarkston, Busby
 1905 Allan, David, Inches Farm, Eaglesham
 1906 Baird, W. A., Erskine, Bishopston
 1895 Ballantyne, William, Busbyside, Busby
 1897 Blackwood, Walter, Aitkenhead, Cathcart
 1886 Blair, James, Bankfoot, Inverkip
 1857 Blythwood, Lord, Blythwood, Renfrew
 1905 Bowie, Walter, Marymaur, Paisley
 1905 Brown, Wm., Craigton, Bishopston

Admitted

1884 Bryce, David, Abbots Inch, Paisley
 1906 Buchanan, George, Hunterhill Farm, Paisley
 1906 Cairnduff, Andrew, Cross Arthurlie, Barrhead
 1906 Clark, Allan, Netherlea Farm, Cathcart
 1905 Clark, David, High Craigs, Eaglesham
 1905 Clark, James, High Craigs, Eaglesham
 1884 Clark, James, Burnside, Mearns
 1906 Clark, James, Netherlea Farm, Cathcart
 1905 Clark, Robt., Hazelden, Newton Mearns
 1906 Clark, Thomas, Netherlea Farm, Cathcart
 1884 Clark, Wm., Netherlea Farm, Cathcart
 1893 Coats, Andrew, Feiguslie, Paisley
 1888 Coats, Sir Thos. Glen, Bart., of Ferguslie Park, Paisley
 1897 Collins, Hugh Brown, Auchinbothie, Kilmalcolm
 1905 Craig, Matthew, Eastwood Mains, Giffnock
 1884 Crawford, John W., Greenock
 1894 Crichton, A. K., Estates Office, Penshurst, Bridge of Weir
 1881 Cross, David, Inghston, Bishopston
 1897 Cross Thomas, Langbank, Renfrewshire
 1880 Cunningham, J. C., of Craighends, Johnstone
 1905 Cunningham, Robert, Agricultural Implement Maker, Pollokshaws
 1904 Davie, James, Bogton, Cathcart
 1894 Dawson, Robert, Dovehill, Pollokshaws
 1906 Farquhar, Mrs. A. W., St Margaret's, Bridge of Weir
 1882 Ferguson, A. R., Writer, Neilston
 1893 Ferguson, James A., Elderslie Estates Office, Deanside, Renfrew
 1875 Ferguson, Peter, Croft an righ, Renfrew
 1900 Fleming, Andrew, Threepland, Eaglesham
 1905 Fleming, John, Windhill, Eaglesham
 1897 Fleming, Thomas, Easter Farm, Busby
 1888 Fleming, William, of Park, Renfrew
 1872 Forsyth, James, Ironmonger, Kilmalcolm
 1897 Fulton, Thomas, Shiels, Renfrew
 1905 Gardner, James, Hillington, Paisley
 1905 Gardner, Jas., jun., Hillington, Paisley
 1906 Gardner, Thomas, Wraes Mill, Neilston
 1905 Gemmell, Alexander, Humble, Newton Mearns
 1906 Gibb, James, Nether Southbar, Renfrew
 1905 Gilmour, James, Overlee, Clarkston, Busby
 1905 Graham, Patrick, Kintochside Farm, Busby
 1905 Hamilton, George, Contractor, Neilston
 1900 Harvie, Alexander, Shieldhill, Newton Mearns
 1905 Harvie, Robert, Darnley Mill, Nitshill
 1880 Hoggan, Andrew, Busby, Glasgow
 1905 Holmes, John, Glenshinnoch, Bishopston
 1905 Holmes, John A., Formaken, Erakine
 1906 Holmes, Peter, Priestside, Kilmalcolm
 1905 Holmes, William, jun., Gladstone, Kilbarchan
 1906 Holmes, William, Harlaws, Bridge of Weir
 1897 Houston, Alex. C., Marylea, Calaide, Paisley
 1906 Houston, Gavin, Greenhill, Elderslie
 1894 Houston, William F., V.S., Paisley
 1875 Houston, Geo. L., of Johnstone, Johnstone
 1897 Howie, Robert, Netherland House, Pollokshaws
 1894 Hunter, Andrew, How-wood, Renfrew
 1905 Jackson, Alexander, Greenlaw, Newton Mearns
 1884 Jackson, Jas., Carolside, Busby

Admitted

1897 Jackson, John, Whittemoss, Bishopston
 1897 Kidston, A. Glen, jr. of Finlaystone, Langbank, Renfrewshire
 1897 Kidston, George J., of Finlaystone, Langbank, Renfrew
 1905 Knox, John, Malletshead, Newton Mearns
 1906 Kyle, Matthew, Selvieland, Paisley
 1906 Laidler, James, 3 Park Terrace, Paisley
 1906 Lambie, Alex. Balguy Mains, Newton Mearns
 1906 Lambie, George W., Pilmuir Farm, Newton Mearns
 1905 Lambie, John, jun., Langton, Newton Mearns
 1905 Lambie, John, Patterson, Thornliebank
 1896 Lambie, James, Bonnyton Moor, Eaglesham
 1897 Lang Alex. A., Garneyland, Inchinnan, Renfrew
 1906 Lang Benj., 94 High Street, Paisley
 1882 Locke, Matthew, Nether Kirkton, Neilston
 1875 Love Alexander, Margaret's Mill, Kilmalcolm
 1905 M. Alister, James, Craig Road, Cathcart
 1907 MacBean, S., Land Steward, Erakine, Bishopston
 1905 M'Coll, Hugh, Waterfoot, Busby
 1905 M'Coll, Neil, Craighends Home Farm, Johnstone
 1905 M'Crone, John, The Wood, Thornliebank
 1875 Macdowall, H., of Garthland, Lochwinnoch
 1906 Macfarlane, John, Kilgraston, Bridge of Weir
 1905 M'Gee, Walter, Bridge Street Grain Mills, Paisley
 1906 MacIndoe, Robert, Barshagra, Barrhead
 1897 M'Kay, John, Crossmill, Barrhead
 1884 M'Kie, H. B., Freeland, Bishopston
 1906 M'Lachlan, John, Drums, Greenock
 1897 M'Laurin, Arch., Carlside House, Johnstone
 1905 M'Millan, William, Orchard, Giffnock
 1905 M'Neilage, Robert Arden, Thornliebank
 1885 Mactavish, D. A., Solicitor, Johnstone
 1897 Marshall, J. C. R., Crookfur, Newton Mearns
 1895 Marshall, Robert C., Bruntshields, Kilbarchan
 1904 Mather, James B., Kirkhill, Newton Mearns
 1889+Maxwell, Sir John Maxwell Stirling, of Pollok, Bart., Pollokshaws
 1900 Maiklem, John, Thorn House, Johnstone
 1905 Michie, David K., Elderslie Estates Office, Renfrew
 1905 Miller, James, Flander, Newton Mearns
 1881 Moffat, George, Valeview, Busby
 1906 Munro, Henry, Bishopston
 1905 Munro, Robert, Polnoon, Eaglesham
 1899 Mure, Major Wm., of Caldwell, Glasgow
 1890 Murray, J. Campbell, Hagg's Castle, Pollokshields
 1900 Orr, Geo. W., Cowdonhall, Neilston
 1881 Park, Walter, Hatton, Bishopston, Renfrew
 1905 Park, William, Glenshinnoch, Bishopston
 1905 Peddie, Robert, Castle Mains, Cathcart
 1887 Peile, H. R. B., Manson House, Greenock
 1897 Pollock, John, jun., Springside, Howwood
 1873 Pollok, John, Paper Mill, Langside
 1883 Potte, Alexander, V.S., Paisley
 1806 Raeside, Andrew, Floak Farm, Newton Mearns
 1905 Raeside, Hugh, Langrigg, Newton Mearns

Admitted

- 1888 Reid, Colin, Lawside, East Kilbride
 1905 Reid, John, Castle Farm, Newton
 Mearns
 1882 Reid, Robert, Writer, Lochwinnoch
 1888 Reid, William, Titwood Farm, Mearns
 1905 Renfrew, Andrew, Barrance, Newton
 Mearns
 1905 Renfrew, William, jun., Burnhouse,
 Newton Mearns
 1900 Renfrew, William, Ferguslie Farm,
 Paisley
 1905 Rennie, Alex., Wallmeadow, Paisley
 1896 Renshaw, Sir Charles Bine, Bart., of
 Barrochan, Houston
 1868 Riddell, David, Blackhall, Paisley
 1856 Robertson, John, 22 Forsyth Street,
 Greenock
 1905 Rodger, David, Bonnyton, Eaglesham
 1905 Rodger, James, Netherplace, Newton
 Mearns
 1905 Rodger, William, Crook, Newton Mearns
 1882 Scott, James B., Ryeraes, Johnstone
 1905 Shaw, John C., Gertrude Place, Barr-
 head
 1879 Shaw-Stewart, Sir Hugh, of Greenock
 and Blackhall, Bart., Ardgowan, In-
 verkip
 1891 Speirs, Alex. Archibald, of Elderslie,
 Houston House, Johnstone

Admitted

- 1905 Steven, Robert, Priesthill Farm, Nits-
 hill
 1905 Steven, Thos., Wardhill, Nitshill
 1900 Stewart, John, Carrot, Eaglesham
 1905 Stewart, John P., Thornley Park, Paisley
 1900 Stewart, Thomas, Ardoch, Eaglesham
 1905 Stirling, James, Housecraigs, Busby
 1905 Strang, Geo., Leggatston, Nitshill
 1905 Strang, Wm., Upper Darnley, Barrhead
 1880 Taylor, William, Park Mains, Renfrew
 1894 Thomson, Malcolm B., Crosslee House,
 Houston, Johnstone
 1905 Veitch, James, Hillhead Farm, Crook-
 ston, Paisley
 1900 Watson, Alexander, Greenfield, Eagles-
 ham
 1906 Weir, James, Braidbar, Cathcart
 1906 Whyte, John, Nether Craigends, John-
 stone
 1906 Whyte, William, Auchens, Johnstone
 1894 Wilson, James, Boghall, Houston
 1868 Wilson, Robert, Manswraes, Bridge of
 Weir
 1905 Wilson, Alex., Low Borland, Eaglesham
 1905 Wilson, Andrew B., Middleton, Newton
 Mearns
 1905 Young, David, Bysland, Newton Mearns
 1888 Young, R. C., Netherfield, Johnstone
 1905 Young, William, Haugh Farm, Nitshill

2.—PERTH DISTRICT.

EMBRACING THE

COUNTIES OF FIFE, FORFAR (WESTERN DIVISION), KINROSS,
AND PERTH (PERTH SHOW DIVISION).

FIFE.

Admitted

- 1902 Abbie, Robt., Anfield Farm, Largo,
Fife
1900 Adamson, David, Balmullo, Leuchars
1888 Aitken, George Lewis, Bogilly, Kirk-
caldy
1904 Allan, David, Southfod, Dunfermline
1875 Anderson, Charles, Fettykil, Leslie
1888 Anderson, David A., 80 Crossgate,
Cupar-Fife
1905 Anderson, James, Auchendownie, Largo
1905 Anderson, J. L., Town Clerk, Cupar-Fife
1904 Anderson, John, Newbigging of Ceres,
Cupar-Fife
1867 Anderson, W. H., Anchor Lodge, An-
struther
1892† Anstruther, Sir R., of Balcaskie, Bart.,
Pittenweam
1885 Anstruther-Duncan, Mrs C. H. A., of
Naughton, Dundee
1862 Arnot, David, Friarton, Newport, Fife
1900 Arnot, David, jun., Friarton, Newport,
Fife
1900 Arnot, Patrick, Moonzie, Cupar-Fife
1886 Arnot, Thomas, Newton of Falkland,
Falkland
1894 Auchmuty, George, Craighead, Crail
1884 Auchterlone, James, Leckerstone, Dun-
fermline
1864 Bain, James, St Andrews
1878 Baird, William, of Elie, Fife
1884 Balfour, Edward, of Balbirnie, Markinch
1857 Balfour, Major F. W., of Farnie Castle,
Colleslie
1890 Balfour, Francis, yr. of Farnie, Farnie
Castle, Colleslie
1900 Balfour, James, Baldastard, Largo
1893 Balfour, William, Ovanstone, Pitten-
weam
1871 Ballingal, Neil, Sweetbank, Markinch
1903 Ballingal, George, Newton, Wormit,
Dundee
1861 Ballingal, John, Dunbog, Newburgh
1890 Banks, James, Pitteddie, Kirkcaldy
1900 Barclay, Patrick, Manorleys, Lochgelly
1886 Baxter, Edward Gorrel, of Teasess,
Largo
1891 Baxter, John Henry, of Gilston, Largo
1900 Beath, Thomas, Farmlands, Leslie
1871 Belfrage, A. W.; J. P., G. E. of Colliston,
Kinross-shire, Earlsknowe, Elie
1856 Bell, David, Todhall, Cupar-Fife
1893 Bell, George, Lundin Mill, Largo
1880 Bell, John, Balboothie, Kileconquhar
1908 Bell, John C., Randerston, Crail
1893 Bell, P. A., Fusk, Leuchars
1897 Bell, Robert, Upper Kenley, Boarhills,
St Andrews
1877 Bennet, Arthur, South Pitkinnie, Loch-
gelly

Admitted

- 1899 Bennet, David, Merchant, Saline, Dun-
fermline
1896 Berry, William, of Tayfield, Newport,
Fife
1893 Berwick, Andrew, of Hayston, Leuchars
1904 Berwick, John, Barbarafeld, Cupar-
Fife
1898 Berwick, P. W., Ardross, Elie
1898 Beveridge, Chas. H., Crombie, Dunferm-
line
1882 Beveridge, George, Kirkcaldy
1881 Beveridge, William, jun., Eastgrange,
Dunfermline
1896 Birrell, James, Tyrie, by Kirkcaldy
1883 Black, James, Tullybrock, Markinch
1889 Blyth, James, Logie, Cupar-Fife
1890 Blyth, William, St Andrews
1905 Bonella, John, Ramornie Mill, Ladybank
1895 Bonthron, James, Hayfield, Kirkcaldy
1882 Bowman, David W., Newark, St Monance
1887 Bowman, George M., of Logie, Cupar-
Fife
1890 Braid, John, Abercrombie, St Monance
1902 Brown, Alex., Inchervie, Colonsburgh
1894 Brown, Hugh, Colton Mains, Dunferm-
line
1878 Brown, Jehn, of Colton, Dunfermline
1904 Budge, Joseph, Wemyss Castle Estate
Office, East Wemyss
1897 Burns, A., Grange, Dunfermline
1908 Buttercase, David L., Uthrogie, Cupar-
Fife
1894 Butters, Hugh, Masterton, Dunfermline
1908 Butters, James, Masterton, Dunfermline
1901 Cairns, James, Ashburn House, Crail
1904 Cairns, James, Rennyhill, Anstruther
1904 Cairns, Wm. Roger, Ashburn House,
Crail
1905 Cameron, James, Tayside, Newburgh,
Fife
1906 Cameron, Robt., Balmeadownside Farm,
Colleslie
1899 Campbell, Duncan, Elie
1887 Campbell, Colonel, Westwood House,
Cupar-Fife
1880 Carnegie, James, of Aytoun Hill, New-
burgh
1905 Carstairs, John, Carnbee, Pittenweam
1869 Carswell, David, Blacketyside, Leven
1885 Carswell, J. H., Straiton, Leuchars
1868 Cartwright, T. B. B. Leslie Melville,
Melville House, Ladybank
1886 Cathcart, James T., yr. of Pitcarlie,
Dunbog House, Newburgh
1857 Cathcart, R., of Pitcarlie, Newburgh
1889 Chesape, Mrs, of Wellfield, Strathmigie
1901 Chesape, G. R. H., Wellfield, Gateside,
Fife
1881 Chesape, J., of Lathockar, Straththyrum,
St Andrews

Admitted

- 1879 Christie, F. W., Dairsie Mains, Dairsie, R.S.O., Fife
 1890 Christie, James M., Morton, Tayport
 1874 Christie, John, Kirktonbarns, Tayport
 1889 Clark, Alex., Chestnuts, Lundin Links
 1905 Clark, Alexander, Newton, Markinch
 1900 Clark, William, Wester Bogie, Kirkcaldy
 1871 Clark, Wm., 57 Cross Gate, Cupar-Fife
 1905 Clement, D. W., East Pitkierie, Anstruther
 1894 Clement, Jas., Balkaithly, St Andrews
 1894 Clement, John, North Dron, Dairsie, R.S.O.
 1882 COCHRANE, Hon. Thos., M.P., Crawford Priory, Springfield
 1896 Constable, John, M.D., Leuchars
 1892 Corstorphine, J. B. B., Inchyre Abbey, Newburgh, Fife
 1905 Craig, William, Couston, Aberdour, Fife
 1905 Cranna, Charles J., Strathedew, Ladybank
 1901 Orichton, Chas. M. M., of Lathrisk, Largo House, Largo
 1894 Orichton, Jas., Boyne House, Ladybank
 1901 Cruickshank, Peter F., Montrave, Leven
 1879 Cunningham, David, Dalachy, Aberdour, Fife
 1879 Cunningham, John G., Burntisland
 1880 Curr, James, Largo Estate Office, Largo
 1894 Currie, Walter T., of Trynlaw, Cupar-Fife
 1881 Currier, Peter, Grain Merchant, Kirkcaldy
 1858 Dalgleish, L., Keavil, Dunfermline
 1906 Dalmiel, T. Kennedy, Nether Kenneddar, Saline, Fife
 1901 Dand, John B., Westall Farm, Cupar-Fife
 1906 Denakin, John, V.S., Landale Street, Leuchally
 1896 Davidson, James Scott, of Cairnie, Colliestown
 1899 Davidson, Peter, East Craigfoodie, Dairsie, R.S.O.
 1896 Davidson, Thos., Braxton and Cowden-laws, Dysart
 1884 Dickie, Alfred, Devon, Kennoway
 1907 Dickie, Henry, Seafield, Inverkeithing
 1899 Dingwall, Andrew, Caipile, Anstruther
 1894 Dott, Robt., Muir Farm, Pathhead, Kirkcaldy
 1898 Dow, James F., Muirton, Kirkcaldy
 1897 Drybrough, David, Orkie Farm, Kettle
 1884 Dun, George, Woodmill, Auchtermuchty
 1878 Duncan, Alexander, Auchtermuchty
 1888 Duncan, John, of Kirkmay, Orail
 1871 Duncan, John, Easter Balmory, St Andrews
 1893 Duncan, Robert, Craigfoodie, Dairsie, R.S.O., Fife
 1897 Edie, Harry Hay, Cornceires, Anstruther
 1881 Elder, Hugh, Dunfermline
 1875+~~Edie~~ and Kincaid, K.G., the Earl of Broomhall, Dunfermline
 1893 ERASME, Sir F. William, of Cambo, Bart., Kingsbarns
 1892 Fair, Alex., Pratts Farm, Leven
 1898 Fair, David, Little Raith, Cardenden
 1906 Fair, George, Shawmill, Cardenden
 1891 Fairlie, J. O. B., of Myres Castle, Auchtermuchty
 1884 Farmer, Robert, of Kingask, St Andrews
 1883 Ferguson, R. C. Munro, of Raith, M.F.,
 1891 Ferrie, David, Parbroath, Cupar-Fife
 1893 Finlay, Archibald, Mairsland, Auchtermuchty
 1859 Finlay, John, Lochend, Cardenden
 1898 Finlayson, James, Coalfarm, St Monance
 1908 Fleming, Alexander, St Ford, Kilconquhar
 1898 Fleming, Andrew, Hallteases, Ceres

Admitted

- 1905 Fleming, Wm., Grangemuir, Pitten-weem
 1878 Forgan, James, Sunnybraes, Largo
 1899 Fortune, George B., Rosebank, Colinsburgh
 1905 Fraser, John, Collessie Mill, Collessie
 1894 Fraser, Robt., Middle Balbeggie, Kirkcaldy
 1904 Fulton, Adam, Netherton, Keltie
 1900 Fulton, John, Balmule, Burntisland
 1888 Galloway, John, of Seggie, Guardbridge
 1905 Gavin, George, Estate Office, Falkland Palace, Falkland
 1871 Gibb, David, Barmuir, Orail
 1898 Gibb, James, Easthall, Cupar-Fife
 1898 Gibb, William G., Pitteuchar, Thornton
 1907 Gifford, John, Balbougie, Inverkeithing
 1877 Gilchrist, Andrew, Carvenom, Anstruther
 1875 Gilchrist, William, Nursery Cottage, Mount Melville, St Andrews
 1875 Gillespie, John, Burns Tavern, Lochore, Lochgelly
 1897 Gilmour, Harry, Montrave, Leven, Fife
 1872+GILMOUR, Sir John, of Montrave, Bart., Leven
 1897 Gilmour, Captain John, yr. of Montrave, Woodburn, Ceres
 1890 Gilroy, George A., Rankellour, Springfield, Fife
 1887 Goodall, Thos., Cardenbarns, Cardenden
 1896 Gordon, Rev. Aneas G., The Manse, Kettle
 1888 Gourlay, J. Murray, 1 Hope St., St Andrews
 1900 Gray, Henry, Hawkhill, Kincaid-on-Forth
 1904 Gray, Major Wm. Anstruther, of Killmany, M.P., Cupar-Fife
 1896 Grosset, J. B., Solicitor, Cupar-Fife
 1899 Guild, William, of Lindores, Parkhill, Newburgh
 1900 Hamilton, Andrew, Brucehaven, Dunfermline
 1871 Heggie, R. B., West End House, Kirkcaldy
 1891 Henderson, A. L., Kingsdale, Kennoway
 1904 Henderson, George, Seointe, Leven
 1908 Henderson, Wm., Reedieleys, Auchtermuchty
 1877 Hepburn, John, Kinghorn
 1895 Hewitt, Hon. William James, St Colmes House, Aberdour, Fife
 1904 Hill, John, jun., Langside, Kennoway
 1901 Hill, Thos., jun., Boarhills, St Andrews
 1900 Hill, William, East Baldrige, Dunfermline
 1898 Horn, David, Drumcarro, Cupar-Fife
 1887 Howie, Arch., Grange Farm, Kinghorn
 1884 Husband, D., Struthers, Cupar-Fife
 1901 Husband, Robt., Solicitor, Dunfermline
 1883 Hutcheson, Alex., Ingleside, Kirkcaldy
 1891 Hutton, John, Kilmanning, Orail
 1900 Inglis, James, Barmies, Markinch
 1891 Inglis, James, Redhouse, Cardenden, R.S.O.
 1887 Inglis, John, of Colluthie, Cupar-Fife
 1895 Irving, John, Estate Office, Largo, Fife
 1896 Jamieson, W., Estate Office, Elie
 1876 Jamieson, W. T., Solicitor, Anstruther
 1898 Jeffrey, Robt., Drumfin, Torryburn
 1877 Johnston, L., Sands, Kincaid-on-Forth
 1882 Johnston, S. W., St Michael's, Cupar-Fife
 1898 Johnston, Wm., Allankill, St Andrews
 1890 Kay, Alex., Flass, Newport
 1881 Kay, Robert, Fliskmillan, Newburgh, Fife

Admitted

- 1863 Kay, Wm., Burnbank, Kincardine-on-Forth
 1893 Kellock, George, Balmerino, Newport
 1893 Kidd, John, Rhynod, Leuchars
 1859 Kininmonth, Peter, Collairnie, Collessie, Fife
 1884 Kinneair, John Boyd, of Kinloch, Collessie
 1871 Kinross, Thomas, Wester Balbeggie, Kirkcaldy
 1879 Knight, Robert, V.S., Abbots House, Dunfermline
 1896 Laidlay, A. H., Strathaven, St Andrews
 1900 Laird, John, Caskiebarra, Leslie
 1905 Lambie, George, East Pitcoorthie, Dunfermline
 1878 Landale, James, The Binn, Burntisland
 1893 Lauder, Thomas, St Nicholas, St Andrews
 1896 Law, George P., West Pitseottie, Ceres
 1896 Law, James, Spencerfield, Inverkeithing
 1891 Lawson, Alex., of Burnturk, Annfield, Kettle
 1890 Lawson, Henry Graham, Firthfield, Anstruther
 1903 Lawson, John, of Carriston, Markinch
 1899 Leburn, Patrick M. G., Gateside House, Gateside
 1884 Lees, David, Pitseottie, Cupar
 1897 Leitch, Richard G., Cameron, Buckhaven
 1896 Lesslie, William Smith, Banchoy, Kirkcaldy
 1898 Lindsay, John, Dams, Kingskettle
 1889 Lochhead, Matthew, Wester Balgarvie, Cupar-Fife
 1896 Longmuir, Thomas, St Andrews
 1904 Low, William, Blebo, Cupar-Fife
 1895 Lumsden, John Lawson, Freuchie
 1904 Lyle, Alex., Auchmudy Farm, Markinch
 1890 M'Gibbon, John, Bankhead, Leven
 1890 M'Gregor, James Fleming, 71 Market Street, St Andrews
 1904 M'Inroy, James, Baldinnies, Dunning
 1878 M'Intosh, Dr, 21 Abbotsford Crescent, St Andrews (and Nevay Park, Forfarshire)
 1907 M'Kelvie, Gavin, Seaview, Methil
 1900 M'Kerchar, John, Pitbauchille, Dunfermline
 1903 Maclellan, George L., of Kinsleith, Cupar-Fife
 1903 Maclellan, Walter P., of Kinsleith, Cupar-Fife
 1898 M'Laren, Wm., Inch Farm, Kincardine-on-Forth
 1871 M'Naughton, William, North Lethans, Saline
 1896 Maitland, F. L., of Lindores, Newburgh, Fife
 1905 Marshall, Harley, of Dunduff, Dunfermline
 187 Marshall, Walter, of Lochmaloney, Cupar
 1879 Meikle, William, Denbrae Farm, St Andrews
 1896 Meiklejohn, Wm., Glen-Newton Brewery, Falkland
 1893 Meiklem, James, Begg, Kirkcaldy
 1896 Meiklem, William, Begg, Kirkcaldy
 1905 Meldrum, Charles, of Balmungo, St Andrews
 1859 Meldrum, J., of Eden Bank, Pittormie, Cupar-Fife
 1898 Melville, Thomas Robertson, Kettle
 1875 Menzies, Fergus, 80 Canmore Street, Dunfermline
 1897 Millar, Geo., Nydie Mains, St Andrews
 1877 Millar, J., of Waulkmill, Dunfermline
 1890 Miller, James Gilbert, Starr, Cupar-Fife

Admitted

- 1904 Miller, James W., Lochhead, West Wemyss
 1870 Millie, George, St Mary's, Cupar-Fife
 1894 Mitchell, Alexander, of Luscar, Dunfermline
 1905 Mitchell, H. Q., Newbigging, Burntisland
 1899 Mitchell, James, County Buildings, Cupar-Fife
 1898 Mitchell, John, Glenzie, Kirkcaldy
 1859 Mitchell, Robert, 3 Bonnygate, Cupar-Fife
 1904 Mitchell, Robt. T., Newington, Cupar-Fife
 1899 Mitchell, Stuart, Camilla, Kirkcaldy
 1907 Mitchell, William, Calais, Dunfermline
 1905 Morgan, John, Kilgour, Falkland, Fife
 1906 Morris, Andrew Ireland, Grassmiston, Crail
 1878 Morrison, B. G. W., of Falfield, Cupar-Fife
 1902 Morrison, E. E., Bonnyton, Stravithie, R.S.O.
 1901 Morrison, James, Lower Kenly, Boarhills
 1890 Morton, David, Crail
 1894 Morton, John G., Wormiston, Crail
 1899 Morton, John P., Broomhall, Dunfermline
 1894 Moubray, Capt. H. H. Carew, of Otterston, Aberdeen
 1903 Mungall, William, Transy, Dunfermline
 1902 Murray, James, Lahill Craig, Largo, Fife
 1883 NAIKEN, Sir M. B., of Rankeillour, Bart., Springfield
 1896 Nasmyth, Alex. Hogg, Middlebank, Dunfermline
 1899 Nasmyth, Dr Thos. Goodall, Cupar-Fife (Palmerston Place, Edinburgh)
 1896 Nass, Walter, Potato Merchant, Kingskettle
 1906 Nicol, J. M. R., Greenside, Largo
 1884 Nisbet, T. M., Forthar, Freuchie
 1905 Niven, Alex., Park House, Inverkeithing
 1880 Normand, William J., Dysart
 1893 Orchison, Alex., of Torr, Cupar-Fife
 1883 Osborne, David, Banker, Cupar-Fife
 1896 Oswald, John, of Dunnikier, Kirkcaldy
 1886 Page, Walter, Myregeons, Kirkcaldy
 1859 Paton, John, Kirkness, Lochgelly
 1893 Porter, James, Prinlaws House, Leslie
 1864 Prentice, G., of Strathore, Thornton
 1904 Prentice, John W., Urquhart Farm, Dunfermline
 1889 Purvis, Colonel Alexander, R.A., Kin-aldy, Stravithie, R.S.O.
 1844 Purvis, John, of Kinaldy, Stravithie, R.S.O.
 1905 Purvis, Captain R., of Gilmerton, St Andrews
 1899 Ramage, M., Ashgrove, Windygates
 1895 Ramsay, John, Inch, Pittenweem
 1886 Reid, Andrew, V.S., Auchtermuchty
 1878 Rigg, James Home, of Tarvit, Cupar-Fife
 1904 Rintoul, Jas. F., Starr, Cupar-Fife
 1893 Rintoul, Wm., Mains of Blebo, Cupar
 1904 Ritchie, James M., Denhead, Ceres, Fife
 1900 Ritchie, William, Plains, Auchtermuchty
 1904 Robertson, David, Barmally, Cupar-Fife
 1900 Robertson, James, Orchardhead, Inverkeithing
 1899 Roger, John M., Balgove, St Andrews
 1893 Roger, William, Kingsbarns
 1900 Rollo, D. M., Solletor, Cupar-Fife
 1900 Rollo, W., Easter Forrat, Cupar-Fife
 1891 Ross, Nicol, Cattle-salesman, Dunfermline

Admitted

- 1892 Rosslyn, The Earl of, Balbeggie, Kirkcaldy
 1905 Borthes, Earl of, Leslie House, Leslie
 1896 Rowat, Robert, Easter Lumbennie, Newburgh-on-Tay
 1904 Russell, David, of Inchdairnie, Leslie (Brae Lodge, Murrayfield, Edinburgh)
 1895 Russell, George, Hatton, Lundin Links
 1899 Russell, Thos., Pilmuir, Lundin Links
 1899 Rutherford, William, Thirdpart, Orail
 1893 Scott, Douglas, Newton of Wemyss, Fifeshire
 1893 Scott, John, Newton of Wemyss, Fifeshire
 1893 Scott, John A., Mucross, St Andrews
 1905 Sharp, Mrs F. B., St Fort House, St Fort
 1894 Shephard, William, Solicitor, Leven
 1904 Shiel, James Guthrie, Cairney, Cupar-Fife
 1890 Sidey, James, Blinkbonny, Newburgh, Fife
 1879 Sims, Alex., Bay View Cottage, Drumaldry, Largo
 1900 Sims, Wm. Webster, Royal Hotel, Ladybank
 1902 Sivewright, Sir James, Tulliallan Castle, Kincardine-on-Forth
 1904 Small, And., Ferrie, Colleslie
 1904 Small, John, Mount Farm, Cupar-Fife
 1904 Small, Robert, Kilmur, Kennoway
 1904 Smith, Andrew, Waltonhill, Pittleslie
 1897 Smith, James, Cults, Pittleslie
 1886 Smith, Thomas, Inverdotat, Newport
 1896 Smith-Sligo, Arch. D., of Inzievar, Oakley, Fife
 1888 Sprot, Colonel A., of Garnkirk and Stravithie, Stravithie House, Stravithie
 1876 Stanhouse, J. S., of Northfod, Dunfermline
 1900 Stevenson, David, Sauchenbush, Kirkcaldy
 1892 Stewart, Hugh, Lumphinnans, Cowdenbeath
 1904 Stewart, James, Clatto, Ladybank
 1906 Stewart, James, Headwell, Dunfermline
 1904 Stewart, John, Struthers Barns, Cupar-Fife
 1900 Storrar, Christopher, Dalginch, Markinch
 1890 Storrar, David, Land Surveyor, Cupar-Fife
 1891 Storrar, Richard, Fyeston, Markinch
 1905 Storrar, Richard, Upper Urquhart, Gateside, Fife
 1905 Strang, Robt., Pitillock Farm, Frenchie, Fife
 1889 Syme, John, Nether Strathkinness, St Andrews
 1877 Thom, Alexander, West Baldridge, Dunfermline
 1871 Thom, James, Victoria Gardens, Kirkcaldy
 1875 Thom, James F., Wellsgreen, Windygates
 1879 Thom, B. D., Pitlochrie, Strathmiglo
 1899 Thomson, David (Flear & Thomson), Dunfermline
 1903 Thomson, George, Rankellour, Springfield, Fife
 1891 Thomson, Henry, Perceval, Buckhaven
 1897 Thomson, James, Humble, Aberdeen
 1896 Thomson, John K., Methilhill, Windygates
 1896 Thornton, Robert, North Pitkinnie, Cardenden
 1877 Tod, James, Easter Cash, Strathmiglo
 1904 Tod, James, jun., Easter Cash, Strathmiglo
 1905 Tod, John, Hole Kettle, Kingskettle
 1905 Torrie, Thos. Jameson, Denork, St Andrews

Admitted

- 1898 Turnbull, James, Boghall, Kingsbarns
 1898 Turnbull, Mark, Boghall, Kingsbarns
 1864 Veitch, Christopher, Abden Villa, Kinghorn
 1905 Waddell, James, Stenton, St Monance
 1896 Waldie, Adam, Callange, Cupar-Fife
 1873 Walker, Archibald, Banker, Auchtermuchty
 1875 Walker, Thos., Demperston, Auchtermuchty
 1904 Wallace, Henry P., Talsabout, Cupar-Fife
 1891 Wallace, John, St Catherine's, Links, Leven
 1880 Wallace, T. A., Banker, Burntisland
 1899 Wallace, Wm., Buckthorne, Largo
 1875 Wallace, Wm., Kincaele, Guardbridge
 1883 Walls, Robert, Grange, Burntisland
 1892 Wardlaw, John, Tough Mill, Dunfermline
 1898 Watson, Arthur, Kinneir, Leuchars
 1904 Watson, Henry, National Bank Buildings, Anstruther
 1893 Watt, Frank M., Caldwell, Colleslie
 1892 Watt, W., Seed Merchant, Cupar-Fife
 1905 Webster, John, Grange of Lindores, Newburgh
 1890 Webster, Thos., Nisbetfield, Ladybank
 1874 Wedderburn, H. S., of Wedderburn, Birkhill, Cupar
 1884 Weighton, J. G., of Priorleitham, St Andrews
 1900 Weir, John, M.A., Keith Street, Kincardine-on-Forth
 1872 Wemyss, B. G. B., of Wemyss, Kirkcaldy
 1876 Whyte, John, The Barony, Cupar-Fife
 1882 Wilson, George, Gladstone Cottage, Cupar
 1903 Wilson, George A., East Colquhally, Lochgelly
 1902 Wilson, John C., Tulliallan Castle, Kincardine-on-Forth
 1892 Wilson, John Hardie, D.Sc., F.R.S.E., St Andrews—Free Life Member
 1880 Wilson, F., Albert Crescent, East Newport, Fife
 1906 Wilson, Robt., Spittal Farm, Cardenden
 1859 Young, A., Kinloch, Colleslie
 1897 Young, James, Scotsraig, Tayport
 1875 Younger, J. B. B. C., the Manse, Kinghorn
 1899 Yule, John, Sauchope, Orail

FORFAR

(WESTERN DIVISION).

- 1901 Aikie, Earl of, Cortachy Castle, Kirriemuir
 1874 Anderson, Alex., Barryhill, Dundee
 1884 Anderson, James, Viewbank, Leymill, Arbroath
 1890 Andrew, James M., Magdalenes, Kirkton, Dundee
 1901 Annand, James M., Newton, Glamis
 1903 Arnot, Patrick, Glamis Mains, Glamis
 1871 Arnot, Wm., Glamis Mains, Glamis
 1884 Auchterlonie, Alex., Kirkton of Nevay, Coupar-Angus
 1905 Ballingall, Wm. O., Cookston, Glamis
 1897 Barrie, Peter, St Mary's, Strathmartine, Dundee
 1889 Batchelor, Francis M., Craigie, Dundee
 1890 Baxter, Sir George W., Inverighty, Forfar
 1890 Bell, Thomas, of Belmont, Dundee

Admitted

- 1894 Bell, William, Balmuth, Dundee
 1890 Bell, William Forsyth, Barns of Claverhouse, Dundee
 1904 Bell, W. W., Auchtertyre, Newtyle
 1876 Black, John, Cortachy, Kirriemuir
 1899 Boyd, Charles, Solicitor, Coupar-Angus
 1896 Brown, John G., Craighill, Dundee
 1899 Brown, Wm. Donaldson, Drumlegy, Forfar
 1867 Burr, Rev. P. Lorimer, D.D., Lundie Manse, Dundee
 1882 Buttar, Thomas A., Corston, Coupar-Angus—*Free Life Member*
 1871 CAMPERDOWNS, The Earl of, Camperdown, Dundee
 1884 Clark, James, F.R.C.V.S., Abbeyhill, Coupar-Angus
 1896 Clunie, George, Whitfield, Dundee
 1898 Colville, James W., Leoch, Dundee
 1898 Cowans, David S., of West Mains, Auchterhouse, Dundee
 1898 Cox, Edmund C., Dunnichen, near Forfar
 1882 Cox, Geo. M. (Messrs Cox & Co.), Dundee
 1879 Crabb, William, Rosewell, Kirriemuir
 1890 Dewar, James C., Crief Farm, Kirriemuir
 1887 Don, H. G., c/o Don Brothers, Buist, & Co., Dundee
 1888 Duncan, John, Muirhouses, Kirriemuir
 1879 Duncan, Patrick G., East Memus, Kirriemuir
 1881 Duncan, W. G., Balkemback, Tealing, Dundee
 1895 Durkie, Alexander F., Mill of Mains, Dundee
 1894 Fenton, David, Kingennie, Dundee
 1890 Fenton, W. F., Kinalty, Kirriemuir
 1898 Fergusson, R. A., of Ethiebeaton, Dudhope Works, Dundee
 1904 Findlay, James, Newmill of Craigassie, Tannadice, Forfar
 1894 Fraser, H. B., Medical Superintendent, Royal Infirmary, Dundee
 1904 Fyfe, Allan, North Mains, Mylnfield, Invergowrie, Dundee
 1867 Gardyne, Col. C. G., Finavon, Forfar
 1879 Graham, D. M., Auctioneer, Forfar
 1901 Graham, James, Mains of Baldovan, Dundee
 1890 Grant, John, Craig Millis, Dundee
 1905 Grant, William, Baron Hill, Forfar
 1903 Guild, Jas., Haughs of Cossans, Glamis
 1896 Guthrie, John, Grain Merchant, Forfar
 1878 Henderson, G. D. C., Captain R.N., of Invergowrie, Dundee
 1889 Hendry, William, Mains of Coul, Kirriemuir
 1888 Hunter, Wm., Beech Tower, Broughty Ferry, Dundee
 1899 Johnston, David, Bank of Scotland Buildings, Dundee
 1890 Johnston, John, 14 St Clement's Lane, Dundee
 1890 Kidd, David, West Ardler, Coupar-Angus
 1904 Kilgour, James, Westbank, Longforgan, Dundee
 1888 Kyd, Robert, Marris Cottage, Coupar-Angus
 1893 Laird, W. P., 73 Nethergate, Dundee
 1906 Langlands, Jas. H., 31 Murraygate, Dundee
 1905 Ligertwood, James, Tay Oil-Cake Works, Stannergate, Dundee
 1894 Lindsay, Henry, Home Farm, Glamis
 1890 Lyburn, John, Kinochtry, Coupar-Angus
 1900 Lyon, William, Nether Drumlegy, Forfar
 1905 M'Gregor, William, Newbigging, Burrelton, Coupar-Angus

Admitted

- 1890 MacIntyre, Peter, Denfind, Monikie, Dundee
 1890 M'Kay, Alexander, Mains of Auchterhouse, Dundee
 1905 Mackenzie, William, West Market Co., Ltd., Dundee
 1905 M'Laren, John, jun., Balgillo, Tannadice, Forfar
 1891 Martin, Robert, Baldovie, Kirriemuir
 1894 Maxwell, David, Upper Drumlegy, Forfar
 1892 Menzies, John C., Maritime Buildings, Dock St., Dundee—*Free Life Member*
 1885 Menzies, W. D. Graham, of Hallyburton, Coupar-Angus
 1894 Mitchell, James, Nether Migvie, Kirriemuir
 1886 Mitchell, William, Balmashanner, Forfar
 1900 Morgan, Andrew, Estates Office, Glamis
 1905 Munro, Hugh T., Lindertis, Kirriemuir
 1890 Murray, J. Douglas, Taycreggan, Perth Road, Dundee
 1891 Murray, Joseph, Dryburgh, Loches, Dundee
 1887 Myles, Rob., Ocllamy, Cortachy, Kirriemuir
 1867 Nicol, T. Monro, Littleton, Kirriemuir
 1891 Nicoll, William, Carsebank, Forfar
 1906 Ogilvy, Herbert K., Baldovan House, Dundee
 1871 OGILVY, Sir Reginald H. A., of Inverquhartry, Bart., Baldovan House, Dundee
 1904 Ogilvy, William, Lisdan, Kirriemuir
 1898 Ovenstone, Charles Barrie, Duntrune, Dundee
 1890 Pattullo, David, Pitcur, Coupar-Angus
 1900 Pattullo, Hugh, Newton of Airie, Kirriemuir
 1885 Pattullo, William, 19 St Andrew Street, Dundee
 1880 Primerose, A. G., Dock Street, Dundee
 1868 Ralston, Andrew, Glamis House, Glamis
 1898 Ralston, Claude L., Glamis
 1896 Ralston, Gavin, Glamis House, Forfar
 1899 Reich, Donald, Scroggiefield, Forfar
 1905 Reid, James C., Kilmundie, Glamis
 1901 Ritchie, James Smith, 1 Commercial St., Dundee
 1890 Robertson, Wm. Brown, Dudhope House, Dundee
 1903 Rogers, John Y., Rose Mill, Dundee
 1881 Rogers, Wm., Ph.D., Rose Mill, Dundee
 1881 Ross, Wm., 98 Brook Street, Broughty Ferry
 1896 Rough, William, Longbank, Kirriemuir
 1890 Scott, George C., The Retreat, Perth Road, Dundee
 1894 Scott, Jas., Suttieside, Forfar
 1888 Sharp, Andrew, Norlands, West Albany Terrace, Dundee
 1890 Sharp, John, Balmuir, Dundee
 1888 Shield, J. T., Broughty Ferry
 1894 Sim, Jas., Kinhill, Kirriemuir
 1906 Simpson, James, Newmill, Dunnichen, Forfar
 1904 Smith, John, Adderley, Monifeth
 1884 Smith, Thomas, Mains of Fowles, Dundee
 1900 Soutar, John G., Westhall, Dundee
 1890 Sprenll, Andrew, V.S., Yeaman Shore, Dundee
 1906 Steele, R., Wormit Works, Dundee
 1896 Steele, Thomas, Foulis Easter, Dundee
 1894 Stewart, John F., Noranbank, Forfar
 1898 Stewart, William, Auchlishie, Kirriemuir
 1891 Strachan, James, West Pilmore, Longforgan, Dundee

Admitted

- 1903 Stuart-Gray, Hon. M. G., of Kinfauns, Gray House, Dundee
 1890 Thoms, Thomas S., Benvie, Invergowrie, Dundee
 1903 Thoms, William L., Benvie, Dundee
 1893 Thomson, David Couper, 'Courier' Office, Dundee
 1896 Thomson, Sam. C., Balmossie, Broughty Ferry
 1881 Turnbull, George, Baldonkie, Tannadice
 1902 Warden, James L., Easter Meatlie, Forfar
 1899 Waterston, David, Estates Office, Glamis
 1903 Watson, George, Damside, Coupar-Angus
 1900 Watson, James, Woodlyn, Dundee
 1880 Watson, Wm., Downieken, Dundee
 1881 Wedderspoon, George, Balgavies, Forfar
 1905 White, John A., Royal Bank, Forfar
 1886 White, John F., Craigtay, Dundee
 1891 White, J. Martin, of Balruddery, Dundee
 1861 Whittou, And., of Couston, Newtyle
 1899 Whyte, Alexander, Hatton of Eassie, Glamis
 1884 Whyte, Archibald, Inverquhar, Kirriemuir
 1890 Whyte, James, Upper Hayston, Glamis
 1871 Whyte, John, West Denoon, Glamis
 1888 Whyte, William, Spott, Kirriemuir
 1893 Whyte, Wm., jun., Spott, Kirriemuir
 1881 Wilkie, James, Solicitor, Kirriemuir
 1888 Willsher, George, Pitpointie, Auchterhouse, Dundee
 1878 Wilson, T. Mackay, Solicitor, Kirriemuir
 1897 Wylie, William, Glasswell, Kirriemuir
 1908 Young, John B., Muirloch, Fowls Easter, Dundee
 1894 Young, Robert, Dunkenny, Meigle

KINROSS.

- 1882 ADAM, Sir Chas. E., of Blair Adam, Bart., 5 New Sq., Lincoln's Inn, London, W.C.
 1861 Anderson, Robert H., Tillyrie Cottage, Milnathort
 1893 Barclay, John, Pittendreich, Kinross
 1868 Beath, David, Balavee, Kinross
 1896 Bogie, John, Solicitor, Kinross
 1890 Buchanan, John, Touchie, Milnathort
 1902 Colher, John, Blairnathie, Blair Adam
 1896 Dawson, James A. Ramage, of Balado, Kinross
 1902 Falconer, William K., Solicitor, Kinross
 1900 Ferguson, William Crawford, Burleigh, Milnathort
 1884 Flockhart, Wm., of Annacroich, Kinross
 1886 Hepburn, John, V.R., Milnathort
 1872 Hutchison, J. T., of Moreland, Kinross
 1899 Meiklem, Robert, Lochran, Blair Adam
 1873 Mitchell, Jas., Aldie Castle, Fossoway
 1882 Montgomery, H. Jas., of Hattonburn, Milnathort
 1862 Morrison, J. B. B., of Finnerlie, Kinross
 1904 Muirhead, Alex., Hatchbank, Kinross
 1906 Muirhead, Thos., Bankhead, Fossoway
 1870 Paterson, A., Blinkhoolie, Kinross
 1896 Porteous, Colonel James, of Turfhill, Kinross
 1871 Reid, George, of Tillyrie, Milnathort
 1904 Reid, Robert M., Thomanean, Milnathort
 1906 Rycroft, Col. Wm. Henry, Ard Gairney, Kinross
 1900 Shorthouse, Alexander, Hillside, Cambo, Kinross
 1890 Simpson, Jas., of Mawcarse, Milnathort
 1878 Simpson, Jas., North Lethans, Kinross
 1906 Smith, James, Banker, Kinross
 1884 Steedman, James, of Frux, Kinross

Admitted

- 1878 Terrie, J., jun., Dullomuir, Blair Adam
 1870 Tod, Thos. M., of West Brackly, Kinross
 1884 Tod, Wm., of East Brackly, Kinross
 1874 Waddell, George, Lassodie Mill Colliery, Blair Adam
 1878 Young, George, Lochlea, Kinross
 1901 Watson, George, Little Hard Hill, Kirriemuir

PERTH

(PERTH SNOV DIVISION).

- 1896 Adam, James, Braidedston, Meigle
 1896 Allan, John, Busby, Methven, Perth
 1878 Allan, John, Culthill, Dunkeld
 1906 Allan, John, Dalcrus, Almondbank, Perth
 1887 Allan, William, Kinnon Park, Methven, Perth
 1904 Allan, William, Victoria Auction Hall, Perth
 1878 Anderson, Peter, Duneaves, Fortingal
 1871 Anderson, Robert, Balbrogie, Coupar-Angus
 1896 Annand, William, Mains of Oraigisle, Kilry, Alyth
 1853 Arklay, John, Tullochourran, Kirk-michael, Perthshire
 1860*† ARSOLL, The Duke of, K.T., Blair Castle, Blair Atholl
 1902 Ballingall, Simpson, Parkfield, Scone, Perth
 1901 Barker, George, Engineer, Perth
 1896 Baxter, Wm., Topham, Stanley
 1899 Bell, George, South Inchmichael, Brol
 1904 Bell, E. J., Inveravon (18 Charlotte Street), Perth
 1887 Bell, James H., of Rossie, Forgandenny
 1901 Bell, William, C.E., Aberfeldy
 1895 Bernard, John Mackay, of Dunsinnan, Perth
 1902 Bett, James Esson, Easterton, Glen-farg
 1884 Bett, Thomas, Dainalinn, Aberfeldy
 1899 Beveridge, James, The Cotton, Aber-dalgie, Perth
 1884 Black, Captain, of Balgowan, Perth
 1893 Boyd, James Laurence, of Glendoughie, Glenfarg
 1883*† BREADALBANE, The Marquis of, K.G., Taymouth Castle, Aberfeldy
 1871 Brown, Peter, Stanley
 1879 Bruce, And., Jordanston, Meigle
 1897 Bruce, George, of Rosefield, Balbeggie
 1904 Bruce, John, Rosemount Place, Perth
 1907 Bryden, James G., New Mains, Scone, Perth
 1904 Buik, P. R., 75 George Street, Perth
 1902 Bull, Arthur G., Scottish Live Stock Insurance Co., Tay Street, Perth
 1896 Bullions, John, Byres, Guildtown, Perth
 1904 Butter, Alex., 75 George Street, Perth
 1877 Butter, Albert, Union Bank, Perth
 1895 Butter, Arch. Edward, of Faskally, Pit-lochry
 1871 Cairns, Robert, Letham House, Perth
 1882 Calder, Jas., of Ardargie, Forgandenny
 1888 Cameron, Donald, Boro More, Aberfeldy
 1896 Cameron, John, Cairnbeddie, St Martins, Perth
 1903 Cameron, John, Ballanloan, Blair-Athol
 1892 Campbell, Alexander, Borland, Fernan, Killin
 1879 Campbell, Duncan, Bainscraig, Fortin-gall
 1896 Campbell, Dun., Bonkle Cottage, Craigie, Perth

Admitted

- 1896 Campbell, Col. J. C. L., of Achalader, Blairgowrie
 1901 Campbell, J. Douglas, Craigmakerran, Gulltown, Perth
 1896 Campbell, Peter, Kerrowmore, Glenlyon, Aberfeldy
 1901 Carmichael, James S., of Arthursstone, Meikle
 1879 Chalmers, John, Westwood, Stanley
 1896 Chalmers, Wm., New Mains of Fingask, Errol
 1888 Chapman, Alexander, Wester Buchanty, Glenalmond, Perth
 1890 Chisholm, Colin Edward, Denmarkfield, Perth
 1871 Chrystal, George, Engineer, Perth
 1904 Clark, Arch., Saucher Farm, Collace, Perth
 1871 Clark, Robert, Taybank House, Errol
 1905 Cochrane, Andrew, Alyth (35 Tobago Street, Glasgow)
 1896 Constable, Robert, Balledgarno, Inchture
 1890 Cox, Albert E., of Dunganthill, Dunkeld
 1896 Cox, Edward, of Cairndean, Meikle
 1890 Cox, Alfred W., Glendoick, Glencarse
 1890 Cox, Wm. Henry, of Snaigow, Dunkeld
 1904 Oriehton, D. A., Mains of Rattray, Blairgowrie
 1905 Oriehton, Robert, Burrelton, Coupar-Angus
 1906 Cunningham, James, Hillend, Perth
 1896 CURRIE, Sir Donald, of Garth and Glenlyon, K.C.M.G., Garth Castle, Aberfeldy
 1879 DALGLEISH, Sir Wm. Ogilvy, of Errol Park, Bart., Errol
 1896 Darling, Hon. Lord Stormonth, of Balvairan, Pitlochry (10 Great Stuart Street, Edinburgh)
 1896 Davidson, William, Mavisbank, Perth
 1894 Dewar, John A., M.P., Perth
 1896 Dickie, William B., Whitehills, Inchture
 1846 Dickson, John, W.S., Greenbank, Perth
 1904 Doe, George B., Errol Implement Depot, Errol
 1899 Doig, James, Hanghend, Meikle
 1894 Dougall, James, Knowhead, Gulltown, Perth
 1879 Dow, David, Balmanno, Bridge of Earn
 1879 Dow, James, Clathybeg, Auchterarder
 1865 Duff, James, 1 Inchaffray Street, Perth
 1903 Duncan, James, Coupar Grange, Coupar-Angus
 1896 Dyce, William, Evalick, Errol
 1901 Eley, Henry, of Shire-end, Forgandenny
 1874 Fell, John Duncan, Flesher, Blairgowrie
 1894 Fenwick, James, Kirkhill, Redgorton, Perth
 1899 Fenwick, William, Kinfauns, Perth
 1904 Ferguson, Andrew Mitchell, Banker, Alyth
 1900 Ferguson, Thomas (Kinochtry), Pictstonhill, Perth
 1879 Ferguson, W. S., Pictstonhill, Perth
 1905 Ferguson, Wm. S., Newton of Ballunie, Coupar-Angus
 1905 Ferguson, William Scott, Pictstonhill, Perth
 1904 Fergusson, Alex., Dalcapon, Ballinluig
 1879 Fergusson, Donald, Dalcapon, Pitlochry
 1897 Forbes, James, Deanshaugh, Strathbraan, Dunkeld
 1895 Forbes, James, Old Blair, Blair Atholl
 1892 Fotheringham, Walter Stewart, of Fotheringham and Murthly
 1906 Fraser, Adam, Balgarvie, Scone, Perth
 1879 Fraser, John M., of Invermay, Forteviot
 1897 Fraser, John, Glenfoot, Abernethy, Perthshire

Admitted

- 1904 Fraser, Wm. Lovat, Invermay, Forteviot
 1905 Fullarton, James, Redstone, Coupar-Angus
 1890 Galloway, David, Grain Merchant, Perth
 1896 Gardiner, James, Rose Crescent, Perth
 1890 Gardiner, Thos. J., Banchory, Coupar-Angus
 1871 Geeke, R., of Baldowrie, Rosemount, Blairgowrie
 1875 Gillespie, Jas. J., Brier Bank, Glasgow Road, Perth
 1896 Goodall, William, Snaigow, Dunkeld
 1905 Gourlay, Charles G., The Croft, Longforgan
 1887 Gow, Geo., Rannoch
 1899 Graham, Alex., Ardargie Mains, Forgandenny
 1881 Graham, A. G. Maxtone, yr. of Cultoquhey, Crief
 1896 Graham, Col. Henry Stewart Murray, of Murrayshall, Perth
 1896 Graham, John, Tippermallo, Methven, Perth
 1904 Grant, Alfred B., Victoria Auction Hall, Perth
 1887 Grant, George, Lilly Bank, Blairgowrie
 1879 Grant, John S., Tullymet, Ballinluig
 1899 Grant, W. J. B., Bengarth, Blairgowrie
 1880 Gray, George, Ellbank Villa, Perth
 1884 Gray, Thomas, Ellbank Villa, Perth
 1861 Greig, T. Watson, of Glencarse, Perth
 1895 Greig, Thomas, yr. of Glencarse, Perth
 1904 Grimond, John, Oakbank, Blairgowrie
 1897 Guild, William, Little Downie, Buchanty, Perth
 1903 Haggart, James D., Breadalbane Mills, Aberfeldy
 1871 Haggart, Peter, Breadalbane Mills, Aberfeldy
 1896 Halley, Robert, Grain Merchant, Perth
 1890 Halkett, John Gilbert Hay, Balendoch, Meikle
 1889 Hardie, David, Factor, Estates Office, Errol
 1905 Harrison, Rev. John, Weem, Aberfeldy
 1896 Harrower, William, Tomnacrolch, Fortingall, Aberfeldy
 1881 Hart, Andrew, Aberdalgie, Perth
 1905 Hart, Jas. Maule, Nether Garvock, Dunning
 1873 Hart, William, Nether Garvock, Dunning
 1870 Hay, Alexander, Easter Cultmalundie, Perth
 1904 Hay, Jas. Drummond, Cultmalundie, Tibbermuir, Perth
 1890 Haynes, George J., Ellwood, Birnam
 1896 Henderson, Robert, Hillyland, Perth
 1890 Henderson, William, of Lawton, Coupar-Angus
 1881 Hill, John, E. Cultmalundie, Tibbermuir, Perth
 1904 Hill, R. Wylie, of Balthayock, Perth
 1897 Hogg, Wm. H., Hallyburton Estate Office, Coupar-Angus
 1894 Hollingworth, Thos., New Mains, Inchture
 1896 Hope, Robert, Huntingtower Mains, Perth
 1895 Howieson, James, Rannagullion, Blairgowrie
 1894 Howison, Robert, East Inchmichael, Errol
 1895 Hunter, John (of Hay & Co.), 8 Fitzroy Terrace, Perth
 1904 Hunter, Wm. C., Waterybutts, Errol
 1904 Husband, David, Taymount Farm, Stanley
 1882 Huthcheson, Andrew, Beechwood, Perth

Admitted

- 1903 Inglis, Robert, Assistant Factor, Blair-Atholl
 1905 Irving, John Bell, Balmacneil, Ballinluig
 1901 Irving, R. J., Balmacneil, Ballinluig—*Free Life Member*
 1897 Jameson, Henry, Claremont, Perth
 1884 Jameson, Martin, Fernhill, Perth
 1880 Jameson, Alex., 81 Barossa Place, Perth
 1904 Jardine, John, 75 George Street, Perth
 1893 Keay, Peter, Marybank, Herriotfield, Logiealmond
 1904 Keir, David, Ladywell, Dunkeld
 1894 Kidd, George, Drumkilbo, Meigie
 1904 Kidd, James, Mains of Errol, Errol
 1878 KINCAIDNEY, The Hon. Lord, Dunkeld (6 Heriot Row, Edinburgh)
 1896 Kinloch, Chas. Y., of Gourdie, Dunkeld
 1877 KINLOCK, Sir John G. S., of Kinloch, Bart., Meigie
 1879 KINNAIRD, Lord, Rossie Priory, Inchture
 1896 KINNOUL, The Earl of, Dupplin Castle, Perth
 1896 Lamb, Alexander, Freeland, Forgan-denny
 1896 Lamond, James, Inverquich, Alyth
 1904 Law, William, Windyedge, Perth
 1894 Leslie, Thomas, Kinloch Arms Hotel, Meigie
 1905 Lindsay, D. C. Rutherford, Ashintully, Kirkmichael, Blairgowrie
 1904 Livingston, James A., Campsie, Guild-town, Perth
 1879 Livingston, John, Balarchibald, Balle-chin, Ballinluig
 1896 Love, Thomas, Auctioneer, Perth
 1884 Lumsden, J. D., Huntingtowerfield, Perth
 1899 Lumsden, Robert Oswald, Buttergask, Coupar-Angus
 1897 MacArthur, D. G., M.D., Aberfeldy
 1899 McBeath, Wm., Mains of Orchill, Killiecrankie
 1904 McCash, Wm. F., Westfield, Perth
 1905 McCracken, J., Victoria Hotel, Princes Street, Perth
 1884 Macdiarmid, Donald, Bank of Scotland, Aberfeldy
 1875 M'Diarmid, Duncan, Camusericht, Rannoch Station
 1896 Macdonald, Alex., Meggernie Estate Office, Glenlyon, Aberfeldy
 1855 Macdonald, Arch. Burns, Rannoch, Perth
 1896 M'Donald, David, Tullylumb Terrace, Perth
 1887 Macdonald, Duncan, Aberfeldy
 1890 M'Donald, James, City Mills, Perth
 1896 Macdonald, James, Craigraven, Kincarrathie, Perth
 1904 Macdonald, John, Saucher, Collace, Perth
 1895 M'Donald, J. M., Welton, Blairgowrie
 1880 Macdonald, Montague, of St Martins, Perth
 1871 Macdonald, William, "The Atholl," Pitlochry
 1860 M'Dougall, Arch., Ardtalanais, Perthshire
 1896 M'Dougall, Donald, Claggan, Ardtalanais, Killin
 1871 M'Dougall, John, Goodlyburn, Perth
 1874 Macduff, Alex., of Bonhard, Perth
 1904 Macduff, Alex., yr. of Bonhard, Perth
 1896 Macfarlane, John, Muir Lodge, Rannoch
 1883 M'Gillewie, R., Union Bank, Dunkeld
 1882 M'Gregor, Athole, Ard Choille, Perth
 1872 Macgregor, Donald, Dalnabo Cottage, Ballinluig
 1905 M'Intosh, Donald, 17 Pitcullen Terrace, Perth

Admitted

- 1896 Mackendrick, William, 33 St John Street, Perth
 1862 MACKENZIE, Sir Alex. M., of Delvine, Bart., Dunkeld
 1890 Mackenzie, George A., Solicitor, Perth
 1885 Mackenzie, R. W. E., Stormontfield, Perth
 1896 Mackinnon, John, Auctioneer, Blairgowrie
 1871 M'Lagan, C. Gibson, Dunfallandy, Pitlochry
 1905 M'Lagan, Robt. P., Cherrybank, Perth
 1900 M'Lagan, William J., East Mid-Lam-berkin Farm, Perth
 1896 M'Laggan, J. G., Woodburn Cottage, The Cairnies, Glenalmond, Perth
 1897 M'Laren, Alexander, Auchnagie, Ballinluig
 1901 M'Laren, Hugh, Blackhill Villa, Aberfeldy
 1896 M'Laren, John, Retreat House, Scone
 1879 M'Laren, Wm., Pittendrigh, Melkior
 1907 M'Leod, John, Stralochy, Dunkeld
 1877 M'Leish, G. S., Wester Drumatherty, Dunkeld
 1884 M'Leish, James, Byres of Murthly, Perth
 1897 MacLeish, James, 15 Mill Street, Perth
 1893 M'Naughton, Alex., Manufacturer, Pitlochry
 1896 MacNaughton, James, Edrogoll, Aberfeldy
 1896 MacNaughton, Peter, Remony, Kenmore
 1898 MacRae, U. H. A., Dalchalloch, Calvine
 1896 MAXFIELD, The Earl of, Scone Palace, Perth
 1904 Marshall, Archd. M'Lean, Bleaton Hallet, Blairgowrie
 1901 Marshall, David, Joint County Clerk, Perth
 1866 Marshall, Robert, Wood Merchant, Killiecrankie
 1896 Martin, H., Flowerdale, Balbeggie, Perth
 1895 Martin, James, Eastbank, Longforgan
 1900 Martin, James, Keithick Mills, Coupar-Angus
 1884 Matthew, John M., of Auchmague, Perth
 1887 Maxwell, William, of Donavoured, Pitlochry
 1904 Meldrum, Andrew M., Solicitor, Pitlochry
 1898 Meldrum, Rev. Andrew, Logierait Manse, Ballinluig
 1869 Menzies, Dr James, of Pitnacree, Ballinluig
 1879 Menzies, James, Wester Coshieville, Grandtully
 1904 Menzies, James, Drumhead, Blairgowrie
 1904 Menzies, John Graham, Hallyburton, Coupar-Angus
 1877 MENZIES, Sir Nell, of Menzies, Bart.
 1893 Menzies, Robert, Millhugh, Herriotfield, Logiealmond
 1879 Menzies, Robert, Tirnie, Aberfeldy
 1893 Menzies, Robert, Weem Hotel, Aberfeldy
 1887 Menzies, Wm. J. B. Stewart, Chesthill, Aberfeldy
 1904 Michie, Thos., Clunskae, Pitlochry
 1835 Middleton, Col. W. F., Baldrarroch, Murthly
 1895 Millar, David, Tullymoran, Logiealmond
 1898 Millar, James Robert, Flawcraig, Errol
 1887 Millar, Robert H., of Blair Castle, Culross
 1896 Millar, William, Keillor, Coupar-Angus
 1871 Millar, Wm., Over Kinfauns, Perth
 1890 Miller, George A., W.S., Perth

Admitted

- 1896 Miller, William, Woodhead, Aberdalgie, Perth
 1903 Mitchell, David, Royal Bank, Blairgowrie
 1877 Mitchell, Hugh, Banker Pitlochry
 1889 Moncreiffe, Sir Robt D, of Moncreiffe, Bart, Bridge of Earn
 1898 Moigan, Wm F, Ardgath, Glencarse
 1905 Morrison, William, Newmill, Perth
 1896 Morrison, John, West Inchmichael Errol
 1896 Morton, David, North Merton, Perth
 1887 Morton, John, Merton, Perth
 1879 Morton, R G, Engineer, Errol
 1904 Mossion, Thos, Potato Merchant, Coupar Angus
 1883 Munro, Chas, Union Bank, Aberfeldy
 1896 MURRAY, Hon Alexander David, Scoones Lethendy, Perth
 1871 Murray, C A, Taymount, Stanley
 1896 Murray, David, Balgersho Works, Coupar Angus
 1900 Murray, E Mackenzie, Woodside House, Coupar Angus
 1905 Nairn, William, M R O V S, 63 High Street, Blairgowrie
 1896 Nicol, Alex, Breadalbane Arms Hotel, Aberfeldy
 1896 Nimmo, Robert, 9 Pitcullen Crescent, Perth
 1904 Norie Miller, Francis, of Cleeve, Perth
 1905 Ogilvy, John C, Parkhead Blairgowrie
 1905 Ogilvy, John Wedderburn, yr of Ruthven, Meikle
 1904 Oaler, Jas, Victoria Auction Hall, Perth
 1896 Oaler, James B, Coupar Angus
 1899 Pantou, William S, Stormont Lodge, Blairgowrie
 1880 Paton, Jas, Obney, Bankfoot
 1893 Paton, Wm B, Monorgan, Longforgan
 1892 Paterson, Chas J G, of Castle Huntly, Longforgan
 1904 Pattullo, Robt C, Bankhead, Alyth
 1893 Pattullo, William, Fullarton, Meikle
 1901 Pearson, James C, Auchlath, Pitlochry
 1896 Peddie, David, Forteviot Farm, Forteviot
 1884 Philp, Alex, Mains of Duncrub, Dunning
 1871 Pirrie, James P, Coachbuilder, Perth
 1891 Pitcaithly, Geo, West Dron, Bridge of Earn
 1877 Pople, George, Newhouse, Perth
 1904 Pople, W G, Newhouse Perth
 1896 Fraim, Alex M, Unthank, Inchture
 1900 Fraim, John, Invergowrie
 1896 Pullar, Albert E, Durn Perth
 1897 Pullar, Charles, Muirhall, Perth
 1896 Pullar, Herbert S, Dumbarnie Cottage, Bridge of Earn
 1896 Pullar, James F, Rosebank, Perth
 1871 PULLAR, Sir Robert, of Tayside, Perth
 1896 Pullar, Rufus D, Brahan, Perth
 1884 Rae, W A, Douglasfield, Murthly
 1871 RAMSAY, Sir James H, of Bamff, Bart, Alyth
 1890 Ramsay, Prof, Glenshee, Blairgowrie
 1904 Rankin, Alex, 71 George Street, Perth
 1854 Rattray, Lieut-Gen J C, of Craighall, C B, Blairgowrie
 1900 Reid, Alex, Marlee, Blairgowrie
 1896 Reid, James, Coachbuilder, Princes St, Perth
 1897 Reid, James, Whinniemuir, Perth
 1898 Renton, James, Craigsala, Perth
 1896 RICHARDSON, Sir E A Stewart, of Pitfour, Bart, Glencarse, Perth
 1890 Richardson, Colonel Edmund R Stewart, of Ballathie, Stanley
 1861 Richmond, John, Dron, Bridge of Earn
 1904 Ritchie, James, The Neuk, Rosemount, Blairgowrie
 1879 Robertson, Alex, Ballechin, Ballinlurg

Admitted

- 1860 Robertson, Dr C, Burnbank, Strathgath, Perthshire
 1899 Robertson, Chas, Balmacree, Pitlochry
 1900 Robertson, Charles, Trochrie, Strathbraan, Dunkeld
 1904 Robertson Chas, West Buttergask, Coupar Angus
 1904 Robertson Chas B, Frakally Estate Office, Pitlochry
 1893 Robertson, Daniel, Mains of Fordie, Dunkeld
 1902 Robertson, David Cloag, Methven, Perth
 1852 Robertson, Donald, Borlick Dunkeld
 1880 Robertson, E W, of Auchleeks, Blair Atholl
 1899 Robertson, George Innernytie, Stanley
 1876 Robertson, J S, of Edradynate, Strathgath
 1879 Robertson Wm, of Oliverburn, Errol
 1883 Robertson, William, Potato Merchant, Perth
 1879 Robertson, Wm, Engineer, Perth
 1883 Bollo, James A, County Club, Perth
 1871 Roy, Thomas, Craigclowan, Perth
 1897 Roy, William, Kirkton of Maier, Perth
 1905 Scott, George Eastertyre, Ballinlurg
 1899 Scott, J G, Kimpurney, Newtyle, Forfar
 1879 Scott, John, Eastertyre, Ballinlurg
 1905 Scott, John, Shielhill, Stanley
 1901 Scott, J Elliot, Inverlmond, Perth
 1883 Scrimgeour, Peter, Balboughty, Perth
 1904 Scrimgeour, William, Bowhouse Farm, Scoones, Perth
 1891 Seaton, Donald, Cronan, Coupar-Angus
 1890 Sellar, James T W S, Perth
 1836 Shaw, James, Aberfeldy
 1902 Shaw, Robert, 24 King Street, Perth
 1896 Simpson, James, Friarton, Perth
 1889 Sinclair, John, Greenhill, Dunning
 1887 Smart James, Architect, Perth
 1891 Smith, James, Cranley, Mankleour
 1896 Smith, John F, Eastfield, Bridge of Earn
 1905 Smith, Robt, Burnside Farm, Stanley
 1900 Smith, William, Logiebrae, Blairgowrie
 1876 Smythe, Colonel David M, of Methven, Perth
 1889 Speedie, Matthew, Pitversie, Abernethy
 1881 Speid, James, Forneth, Dunkeld
 1896 Stark, James, Coates of Fingask, Perth
 1890 Stead, W F, Bulhndeau House, Inchture
 1880 Steel, Adam, of Blackpark, Perth
 1896 Stephenson, John B, Pitlock, Glenfarg
 1905 Steuart Captain J M, of Ballechin, Strathgath
 1891 Stevens, A B, Mains of Kilgraston, Bridge of Earn—Free Life Member
 1893 Stewart, Alex Blair, Balmacree, Pitlochry
 1896 Stewart, Alexander, Lodge, Logiesalmond, Perth
 1899 Stewart, Alex, Netherton, Fonah, Pitlochry
 1905 Stewart, Archd A. (Glenfernate), Blair Atholl
 1877 Stewart, Duncan, Mains of Castle Huntly, Longforgan
 1898 Stewart, Duncan, Mains of Balyonkan, Pitlochry
 1896 Stewart, Edward G M K, Nether Logie, Meikle
 1870 Stewart, Donald, Clachan, Calvine
 1903 Stewart, Donald, Drumcherry, Pitlochry
 1881 Stewart, D D, Castlehill, Inchture
 1888 Stewart, H D, Strathgarry, Blair Atholl
 1900 Stewart, James, Friarton, Perth
 1876 Stewart, James, Woodside Farm, Coupar-Angus

Admitted

- 1883 Stewart, J. F., Newmill, Stanley
 1896 Stewart, Peter, Kirkton of Abernyte, Inchture
 1894 Stewart, William, Edradour, Pitlochry
 1896 Stratton, David, Clashigar, Logiealmond, Perth
 1898 Sutherland, William, Peel, Perth
 1890 Tasker, George, Arnbog, Meigle
 1899 Tasker, Wm., jun., Cambo, Meigle
 1889 Tasker, Wm., East Cambo, Meigle
 1896 Thom, James, Cambusmichael, Guildtown, Perth
 1900 Thomson, Andrew, D.Sc., Perth Academy, Perth
 1905 Thomson, Alex., Springfield, Coupar-Angus
 1901 Thomson, James Meikle, Viewbank, Coupar-Angus
 1906 Thow, John, Rosie Farm, Dunning
 1896 Todd, William Drummond, Mains of Gorthy, Methven
 1903†Tullibardine, Marquis of, M.V.O., D.S.O., Dunkeld House, Dunkeld
 1901 Watson, Wm., Inchcoonans, Errol
 1894 Webster, J. A., Commercial Bank, Perth

Admitted

- 1881 Wedderspoon, Thos., Castleton, Meigle
 1904 White, Charles D., Guardswell, Inchture
 1899 Whitson, Dr James, of Essendy, Blairgowrie
 1892 Whitson, W., Isla Park, Coupar-Angus
 1884 Whyte, William, Muirhead, Forgan-danny
 1896 Wilkie, Alexander, Pitlandie, Stanley, Perth
 1879 Wilkie, David, Market Hotel, Caledonian Road, Perth
 1900 Wilson, Robert T., Craiglochie, Errol
 1905 Wilson, Sydney, Woodburn, Craigie Road, Perth
 1904 Winton, Edward C., Mains of Dunsfalland, Pitlochry
 1896 Wyllie, Scott, Milton of Luncarty, Redgorton, Perth
 1894 Wynd, David, Newbigging, Errol
 1905 Yool, Thos., Menzies Estate Office, Aberfeldy
 1890 Young, John, Balnyle, Meigle
 1894 Young, Robert, Dunkanny, Meigle

3.—STIRLING DISTRICT.

EMBRACING THE

COUNTIES OF CLACKMANNAN, DUMBARTON, PERTH (STIRLING SHOW DIVISION), AND STIRLING.

CLACKMANNAN.

Admitted
1880 Alexander, James, Inch of Ferryton, Clackmannan
1900 Allan, John, Meadowend, Clackmannan
1887 Arrol, Arch. T., Mill Grove, Alloa
1878*† Balfour of Burleigh, Lord, K.T., Kennet, Alloa
1889 Blair, Charles, Glenfoot, Tillicoultry
1905 Bleloch, James, Estate Office, Dollarbeg, Dollar
1891 Cairns, John, Balquharn, Menstrie
1904 Calder, John Joseph, The Walk, Alloa
1877 Crawford, John, High Street, Alloa
1892 Dobie, W. H., of Dollarbeg, Dollar
1890 Drysdale, William, King o' Muirs, Alloa
1899 Fisher, John, Jellyholm, Alloa
1897 Forbes, Robert, Kennet, Alloa
1908 Forrester, William Andrew, Dollarbank, Dollar
1901 Gall, Thomas, Prince of Wales Hotel, Alloa
1900 Gray, Thomas, Seed and Manure Merchant, Alloa
1896 Haig, Alex. P., Blairhill, Rumbling Bridge
1886 Haig, Robert, Dollarfield, Dollar—*Free Life Member*, 1887
1878 Hare, Colonel, Blairlogie, Stirling
1899 Harvey, Miss L., Blairhill, Dollar
1902 Henderson, Thos., Nether Corsebridge, Alloa
1907 Kemp, Wm., 18 Erskine Street, Alloa
1900 Kerr, J. E., Harvieston Castle, Dollar
1889 Kinloch, Charles, Ochiltoun, Dollar
1892 Kinross, D. A., Hillend, Clackmannan
1897 Lander, Thomas Eaton, Blairhill, Rumbling Bridge
1888 Lang, James, Aitkenhead Farm, Clackmannan
1906 Lawson, Robt., 49 Primrose Street, Alloa
1891 M'Laren, William, Longearse, Alloa
1898 M'Nab, Alexander, Middleton Kerse, Menstrie
1890 Mair, William, Gartary, Clackmannan
1890 Mac and Kellie, The Earl of, Alloa Park, Alloa
1900 Melkie, John, Craigrie, Clackmannan
1900 Moir, Arch. P., Bank Street, Alloa
1878 Moir, Jas. M'Arthur, of Hillfoot, Dollar
1900 Morgan, James, Bows Farm, Alloa
1882 Moubrey, John Jas., of Naemoor, Dollar
1906 Paterson, Hugh, Butcher, High Street, Alloa
1898 Peebles, James, Land-Steward, Naemoor, Rumbling Bridge
1869 Robertson, Rev. A. Irvine, Clackmannan

Admitted
1900 Roxburgh, Alex. L., Solicitor, Alloa
1899 Shields, John, Ludgate, Alloa
1891 Sinton, F. J., Dollarbank, Dollar
1899 Smith, Andrew, Hilton, Alloa
1881 Stirling, Robert, Parkhead, Alloa
1897 Sutherland, R. M., Solsgirth, Dollar
1900 Thomson, David, of Greenfield, Alloa
1890 Waddell, Robert, Bridge Street, Dollar
1900 Watson, John, Craigdhu, Clackmannan
1879 Younger, George, Brewer, Alloa
1889 Younger, Jas., Arns Brae House, Alloa

DUMBARTON.

1892 Allan, A. Y., Aitkenbar, Dumbarton
1878 Anderson, John, Merkins, Alexandria
1906 Baird, Montagu William, Keppoch, Cardross
1897 Bauchop, John, Auchentulloch, Alexandria, N.B.
1897 Begg, Malcolm, Blairnile, Luss
1891 Blair, John S., Bencruachan, Helensburgh
1904 Burns, Alan, of Cumbernauld, Cumbernauld, Glasgow
1906 Cameron, Charles Alex., Torloisique, Drumchapel, Glasgow
1876 CAMPBELL, Sir Arch. S. L., of Succoth, Bart., Garscube, Maryhill
1888 Campbell, J. A., of Darieth, Cardross
1889 Campbell, Wm. Middleton, of Colgrain, Helensburgh (33 Rood Lane, London)
1899 Chapman, William, Ballymenoch, Glentworth, Helensburgh
1899 Chrystal, Wm. J., of Auchendarnan, Arden, Dumbartonshire
1905 Colquhoun, Arch. G. Campbell, Garscadden, Drumchapel
1872 COLQUHOUN, Sir James, of Luss, Bart., Rossdhu, Luss
1864 Cousland, James, Broomhill Home, Kirkintilloch
1881 Cullen, William, Bothlyn, Gartcosh
1908 Currie, Malcolm, Stubblebroomhill, Kirkintilloch
1885 Dalrymple, James D. G., of Woodhead, Kirkintilloch
1895 Davie, William, jun., Main Street, Alexandria, N.B.
1877 Dennistoun, J. W., Auchenclea, Row
1868 Douglas, Archibald C., of Mains, Milngavie
1881 Duncan, James, yr. of Auchendavie, Kirkintilloch
1881 Duncan, John, of Auchendee, Groy

Admitted

- 1881 Duncan, Thomas, Dullatur, Cumbernauld
 1867 Ewing, Alexander Crum, of Strathleven, Dumbarton
 1886 Ferguson-Buchanan, Colonel G. J., of Auchentorlie, Bowling
 1897 Ferrier, Alex., The Mill, Cardross
 1880 Findlay, R. B., of Boturich, Balloch
 1897 Fleming, Alex., Drumkinnon, Alexandria, N.B.
 1881 Gilmour, William E., Woodbank, Alexandria
 1896 Gray, James, Commercial Bank House, Kirkintilloch
 1897 Howie, James L., Clachan, Roseneath, Glasgow—*Free Life Member*
 1864 Jack, John S., Adrigbank, Milngavie
 1899 Jardine, Andrew, Ballymenoch, Glenfruin, Helensburgh
 1878 Ker, T. Ripley, of Douglaston, Milngavie
 1899 Kippen, William James, of Westerton, Balloch
 1897 Lawson, John, Killermont, Maryhill
 1875 Lumsden, James, of Arden, Dumbartonshire
 1905 Lumsden, James, yr. of Arden, Dumbartonshire
 1888 MacBrayne, David, of Glenbranter, Auchentell, Helensburgh
 1892 M'Farlan, Coll Jas. Turner, Stronafyne, Arrochar
 1892 Macfarlan, Farlan, Faslane, Garelochhead
 1878 M'Farlane, Colin, Strone, Glenfruin, Garelochhead
 1878 M'Farlane, Duncan, Greenfield, Garelochhead
 1905 M'Kean, John, of Dam of Aber, Alexandria, N.B.
 1865 Mackenzie, John, Willow Burn, Clynder
 1897 Mackenzie, Robert C., of Edenbarnet, Duntocher
 1888 Mackenzie, Robert D., of Caldervan, Balloch
 1888 M'Lean, Thos., Banker, Alexandria
 1857 M'Niven, Alex., Springbank, Helensburgh
 1888 Murray, David, LL.D., Moore Park, Cardross
 1881 Park, Alex., Ingleside, Lenzie
 1888 Rankin, Robert, Bodenheath, Condorrat, Glasgow
 1894 Russell, Wm., Ard-Luss, Helensburgh
 1905 Scott, James, Easter Cadder Farm, Kirkintilloch
 1897 Snodgrass, James, Millig, Helensburgh
 1906 Stewart, W., Milton, Duntocher
 1897 Watkinson, Robt., Balloch Hotel, Balloch
 1864 Weir, James, Woodilee Farm, Lenzie—*Free Life Member*
 1882 Whitelaw, Alex., of Gartshore, Croy
 1856 Young, James, Broadholm, Duntocher

PERTH

(STIRLING SHOW DIVISION).

- 1888 Anderson, A. H., Kippendavie Estate Office, Dunblane
 1900 Ballingall, David, Blairdrummond
 1903 Barty, Alex. Boyd, LL.B., Solicitor, Dunblane
 1904 Barty, James, LL.B., Solicitor, Dunblane
 1878 Barty, James W., LL.D., Solicitor, Dunblane
 1888 Blackett, J. S., Inverard, Aberfoyle
 1906 Brebner, Robert Fred., Estate Office, Gartmore

Admitted

- 1899 Bryce, William, West Canbusdrennie, Stirling
 1899 Buchanan, John Hamilton, of Leny (4 Doune Terrace, Edin.)
 1906 Cairns, James, Coulsill, Auchterarder
 1900 Cairns, Robt., St Mungo's, Auchterarder
 1861 Cairns, William, Belhie, Auchterarder
 1900 Cairns, William, Dalchruin, Comrie
 1904 Calder, George A., Dunblane
 1906 Cameron, Allan, Kellator, Crianlarich
 1900 Cameron, Duncan, Bow, Dunblane
 1901 Cameron, R. W. G., Drumharvie, Auchterarder
 1901 CAMPBELL, Col. Sir Alex., Bart., of Kilbryde, Dunblane (address c/o Messrs Barty, Dunblane)
 1896 Campbell, James, Tullich, Killin
 1905 Campbell, Colonel John Hasluck, of Inverardoch, Doune
 1900 Campbell, Samuel, Locherlour, Crieff
 1871 Carrick, Charles, Bead, Stirling
 1872 Carrick, T. A., Easter Canbusdrennie, Stirling
 1881 Christie, Gilbert, Auchlyne, Luib
 1882 Cochran, Wm., Overdale, Dunblane
 1879 Craig, John, Innergeldie, Comrie—*Free Life Member*
 1880 Craig, Wm., Corriemuckloch, Amulree, Dunkeld—*Free Life Member*
 1888 Crawford, Thos., Dumawhance, Crieff
 1881 Grerar, Alex., Rock Villa, Callander
 1864 Dewar, A., Arnprior, Port of Menteith
 1896 Dewar, Peter, Arnprior, Port of Menteith
 1894 Dick, James, Ballinton, Kippen Station
 1906 Douglas, Daniel, Millwright, Auchterarder
 1899 Dron, W. A., Crieffvechter, Crieff
 1905 Drummond, Arthur Hay, of Cromlix, Dunblane
 1869† Drummond, Col. Home, of Blairdrummond, Stirling
 1890 Duncan, Hector Macduff, of Damside, Auchterarder
 1905 Duncan, James, Culticheldoch, Muthill
 1900 Duncan, John L., Mill of Ogilvie, Blackford
 1876 DUNDAS, Sir Chas. Henry, of Dunira, Bart., Comrie
 1882 Dundas, Colln M., Commander R.N., of Ochertyre, Stirling
 1900 Ewing, George T., Pitkellony, Muthill
 1903 Ferguson, Alexander, Lundie Farm, Doune
 1898 Ferguson, James, Glenartney, Comrie
 1903 Ferguson, John, Glenartney, Comrie
 1902 Fisher, Robert S., Ballmore, Balquhadder
 1887 Fletcher, Angus, Woodvale, Callander
 1861 Gardiner, Robert, of Rottearns, Henhill, Forteviot
 1904 Gardiner, Wm., Low Bank, Auchterarder
 1905 Gilmour, John, General Merchant, Blackford
 1908 Gilholm, Peter, Cromlix, Dunblane
 1900 Graham, George, Faraway, Kippen Station
 1897 Grabame, A. M. B., Glenly, Port of Menteith
 1897 Graham-Stirling, Captain C. Home, of Strowan, Crieff
 1859 Grieve, Michael, Wolsley Park, Callander
 1881 Hamilton, Alexander, Portend, Port of Menteith
 1900 Hamilton, James T., Portend, Port of Menteith
 1869 Hamilton J. B. B., of Arnprior, Canbusmore, Callander

Admitted

1901 Henderson, James W, Clarkton Farm, Doune
 1906 Henderson, William, Woodside Hotel, Doune
 1889 Holmes James, Auchintech, Dunblane
 1904 Jacks, William, of The Gart, Callander
 1890 Jackson, Thomas C, Runaclach, Port of Menteith
 1884 Johnston, J S, Fintalich, Muthill
 1878 Kinross, Andrew, Drumallan, Dunblane
 1905 Lauder, Andrew Scott, Keir Mills, Dunblane
 1905 Lauder, Duncan Fullarton, Mollands Farm, Callander
 1903 Lauder, John, Mill of Keir Dunblane
 1907 Lennox, Jas, Redhills Balgown Crieff
 1907 Lennox, Wm, Easter Dowald, Crieff
 1882 M'Ara Alex, Culdees, Muthill
 1887 M'Callum, Wm R, Balling, Crieff
 1870 M'Culloch, D, Earnholm St Fillans
 1896 M'Diarmid James, Morenish, Killin
 1881 Macdonald, John M S, of Monachyle, Lochearnhead
 1902 M'Donald, John, Nether Shannochill, Gartmore Station
 1893 M'Dougall John, jun, Benglass, Ardru
 1890 MacEwen Daniel, Merchant, Callander
 1888 M'Dwen, John, Cambushinnie Braco
 1894 M'Ewen, John, Land Steward, Thornhill, Muthill
 1897 MacEwen, Wm, Mains of Boquhapple, Thornhill, Perthshire
 1897 Macfarlane, Andrew, Chalmerston, Stirling
 1891 Macfarlane, Charles, East Brackland, Callander
 1896 Macfarlane Duncan, M R C V S, Doune
 1900 M'Intyre, Peter Tighnablan, Comrie
 1891 M'Kich, Wm, Netherton, Blackford
 1881 Mackie, Peter, East Kirkton, Auchterarder
 1886 M'Laren, A, Dall, Ardeonaig, Killin
 1906 M'Laren, Rev John, M A, Tulhalla Manse, Kincardine on Forth
 1888 M'Laren, W D, Drummore, Doune
 1871 M'Naughton, John, Inverlochilarg, Lochearnhead, R S O
 1879 M'Naughton, Robert, of Cowden, Comrie
 1899 M'Nee, John, Colony Farm, Crieff
 1903 Marshall Hugh, Stirling Arms Hotel, Dunblane
 1900 Marshall, Wm, Glenwhinnie, Dunblane
 1872 Marshall, W H, of Callander (25 Heriot Row, Edinburgh)
 1900 Mitchell, James P, Carrat, Stirling
 1900 Mitchell, John, Greenyards, Dunblane
 1891 Mitchell, William, Blackdub, Stirling
 1902 Mour, Wm, Netherton, Kippen Station
 1900 Monteath, Robert Biggs Blackford
 1898 Muirhead, John, Buallands, Stirling
 1875 Murdoch, George Burn, Gartnacaber, Doune—Free Life Member
 1880 Murray, Anthony G, of Dollerie (11 Hope Street, St Andrews)
 1903 Murray, James, Munnieston, Thornhill, Stirling
 1873 Murray, John, Munnieston, Thornhill, Stirling
 1862 MURRAY, Sir Patrick Keith, of Ochtertyre, Bart, Crieff
 1894 Newbigging, Alex, of Dalchomzie, Comrie
 1852 Nimmo, Matthew, Baad, Stirling
 1892 Pagan, John S, Braendarn, Thornhill, Perthshire
 1900 Paterson, Alex, Hill of Drip, Stirling
 1890 Paterson, James, Burnbank, Stirling
 1872 Paterson, James, Lochend Farm, Port of Menteith
 1892 Paterson John, Lunton, Tyndrum

Admitted

1992 Paterson, Robert, Hill of Drip, Stirling
 1893 Paton, Robt, Mosscoot, Dunblane
 1900 Reid, Andrew T, Auchterarder House, Auchterarder
 1864 Reid, Walter, Glenhead Cottage, Dunblane
 1885 Reid, William, Beechwood, Dunblane
 1861 Robertson, David, Allan Hill House, Dunblane
 1905 Robertson, Robt, Mill of Drummond, Muthill
 1889 Rodger, James, Keir Estates Office, Dunblane
 1896 Rogerson, James P, Fendoch, Crieff
 1857 Rollo, Lord, Duncrub House, Dunning
 1883 Rollo, The Hon The Master of
 1900 Ross, Charles, D, Ibert, Crieff
 1896 Scott, George Silverton, Greenloaning
 1894 Scott, William, Upper Lanrick, Doune
 1902 Scrimgeour John Doune Lodge Doune
 1890 Sharp, George R, Middleton House, Blackford
 1904 Sharp, James, Bailhlands, Auchterarder
 1881 Sharp, Jas R, Viewfield, Blackford
 1883 Sharp, John, South Forr, Crieff
 1900 Sharp, Thomas M, Bardrill, Blackford
 1882 Sheppard, Rev H A G, of Rednock, Port of Menteith
 1870 Spear, R T N, Culdees Castle, Muthill
 1875 Stark, M C, Westerton Farm, Doune
 1900 Stewart, Alex, Corsecapie, Dunblane
 1899 Stewart, Duncan, of Milhills, Crieff (Gibbs Entry, Nicolson Street, Edinburgh)
 1877 Stewart, Duncan, Glenmane, Callander
 1883 Stewart, Col John, of Airdvourich, R A, Lochearnhead
 1895 Stewart, John, Bocharlie, Callander
 1882 Stewart, Joseph, Chanlarich, Stirling
 1889 Stirling, Arch, of Keir, Dunblane
 1900 Stirling, James, Dykedale, Dunblane
 1903 Stirling, James, Dykedale, Dunblane
 1900 Stirling, John Alex, of Kippendavie, Dunblane
 1899 Stirling, John W, Nether Cambushinnie, Braco
 1901 Stuart, Capt John, Inverarnan, Ardru
 1890 Taylor, R, Craighead, Blairdrummond, Stirling
 1873 Thomson, William, Nysad, Stirling
 1900 Thornton, George B, of Feddal, Braco, Perthshire (78 Princes Street, Edinburgh)
 1904 Turner Joseph, of Greenhill, Greenloaning
 1900 Walker, William R, Tharthur, Killin
 1852 Wallace, John, of Glassengall, Dunblane
 1900 Watt, John, Burnside, Braco, Perthshire
 1885 Watties, Thomas, Glenanple, Lochearnhead
 1905 Whitelaw, Graeme Alex, Strathallan Castle, Machanay
 1861 Williamson, Col D R, of Lawers, Crieff
 1899 Willison, Campbell, Acharn, Killin
 1900 Willison, Douglas, Acharn, Killin
 1900 WILLOVERBY DE ERLASSY, Lord, M P, Glenartney Forest, Comrie
 1864 Wilson, Alexander, Alford House, Dunblane
 1905 Wilson, Peter, Mill of Gask, Auchterarder
 1904 Young David, Hilton of Gask, Auchterarder

STIRLING.

Admitted
 1905 Adam, James, Muir Park, Denny
 1900 Aitken, Thomas, The Grove, St Ninians, Stirling
 1901 Aitkenhead, Walter, Meadowbank, Polmont
 1878 Aitkenhead, Wm., Roughlands, Carron
 1907 Baird, John, Calderwood, Hirschfield, Falkirk
 1900 Burns-Graham, Allan, yr. of Craigallian, Milngavie
 1876 Best, John, Inveravon, Polmont
 1899 Blackburn, Colonel Peter, of Killearn, Killearn House, Glasgow
 1886 Bolton, Edwin, of Carbrook, Larbert
 1893 Boyle, A. H., Banknock House, Castlecary
 1888 Brown, Charles, Kerse Estate Office, Falkirk
 1882 Brown, John, Brownville, Kilsyth
 1900 Brown, John, Dalderse, Falkirk
 1882 Brown, John A. H., Dunipace, Larbert
 1905 Brown, John, 51 Murray Place, Stirling
 1897 Buchan, Robert, Dalgrain, Falkirk
 1897 Buchanan, Andrew C., Whitehouse, Stirling
 1877 Buchanan, D. M. B., of Boquhan, Balfour
 1877 Buchanan, John, Gartness, Killearn
 1876 Buchanan, Robert, Blairquosh, Strathblane
 1882 Buntine, J. R., Sheriff-Subt., Stirling
 1891 Cairns, William, Muirpark, Cambus
 1900 Campbell, Robert, Auchentowie, St Ninians
 1900 Carswell, John, Graham Road, Grahamston, Falkirk
 1873 Christie, James, Coxethill, St Ninians
 1900 Clark, Alex., Stonehouse, Bothkennar, Carron
 1894 Clarkson, Robert, Avondale, Polmont
 1882 Couper, James, of Craigforth, Stirling
 1899 Crawford, Ewing E., of Auchentowie, Bucklyvie
 1894 Dempster, John, Logie Cottage, Airthrey, Bridge of Allan
 1900 Dewar, Andrew, Douglas Terrace, Stirling
 1900 Dewar, John W., King's Park, Stirling
 1899 Dewar, Peter, King's Park, Stirling
 1906 Downie, Robert, Knock O'Ronald, Gargunnoch
 1890 Drummond, James W., Seed and Nursery Establishment, Stirling
 1891 Drysdale, John, Arngibbon, Port of Menzies Station
 1907 Dundas, David J. W., Craigarnhall, Bridge of Allan
 1901 Eadie, John, Blair Mains, Stirling
 1869 Edmond, David, of Ballochruin, Balfour
 1881 Edmond, John, Galamuir, Bannockburn
 1889 Edmondson, Sir Arch., of Dunreath, Bart., Dunreath Castle, Strathblane
 1862 Erskine, H. D., of Cardross, Stirling
 1882 Ewing, Sir A. E. Orr, of Ballikrain, Bart., Killearn
 1906 Fisher, Daniel, Garchill, Bucklyvie
 1897 Finlayson, Wm., Throsk, Stirling
 1890 Fisher, Daniel, of Ballanemach, Bucklyvie
 1860 Forbes, William, of Callendar, Falkirk
 1888 Fraser, John, Balfouring, Drymen
 1900 Fyfe-Jameson, James F., Old Ballikrain, Balfour
 1900 Galbraith, Alexander, 14 Port Street, Stirling
 1893 Gail, William R., Contractor, Stirling
 1897 Gillespie, W. W., Kerse Bank, South Alloa
 1880 Graham, Alastair E., of Leckie, Gargunnoch

Admitted
 1894 Graham, Donald N., Airthrey Castle, Bridge of Allan
 1894 Graham, Jas. D., Airthrey Castle, Bridge of Allan
 1873 Gray, Andrew, West Plean, Bannockburn
 1873 Gray, James, Kerse Mains, Stirling
 1891 Gray, James, jun., Birkenwood, Gargunnoch
 1901 Gray, John (Gray & Co., Grain Merchants), Stirling
 1897 Grigor, John, Factor, Sanchie Burn, Stirling
 1905 Haldane, William, Colaba, Bridge of Allan
 1873 Henderson, A. W., Bridge of Allan
 1900 Hetherington, William, 27 Port Street, Stirling
 1898 Horsburgh, Charles E., Blairquosh, Strathblane
 1881 Jaffray, William, Wester Barnago, Denny
 1877 Jardine, Wm., Millhouse, Fintry
 1884 Kay, Andrew, Little Kerse, Kippen
 1875 Kay, Charles, Mill Farm, Gargunnoch
 1905 King, Andrew B., Antermony House, Milton of Campsie
 1868 King, C. M., Antermony House, Milton of Campsie
 1857 King, Sir James, of Campsie, Bart., Carstairs House, Carstairs Junction
 1894 Kinross, Henry (J. Gartshore & Sons, Grain Merchants), Falkirk
 1864 Kinross, John, St Leonards, Causwayhead, Stirling
 1907 Lang, James, Bield, Gargunnoch
 1900 Latia, Robert M., Dougalston, Milngavie
 1880 Learmonth, George G., Green Bank House, Falkirk
 1901 Learmonth, Jas., 2 Bank Street, Falkirk
 1899 Leckie, John, Inchwood, Milton of Campsie
 1891 Lowe, P. R., Abbotsford, Bridge of Allan
 1900 Macadam, Archibald, Blairroer, Drymen Station
 1900 Macadam, John, Bank House, Balfour
 1900 M'Cowan, James, Ashentree, Kippen Station
 1894 M'Farlan, Farlan, Shore Wharf, Stirling
 1906 M'Farlane, George, 11 Princes Street, Stirling
 1901 Macfarlane, James, Millhall, Stirling
 1891 Macfarlane, James, Oxhill, Bucklyvie
 1886 Macfarlane, Robt. C., Craigforth Mills, Stirling
 1900 M'Feat, Robert, Offers Farm, Gargunnoch, Stirling
 1900 M'Grigor, Alex., Beechwood, Stirling
 1889 Mackenzie, Robert, yr. of Caldervan Westerton, Bridge of Allan
 1891 M'Kerracher, Daniel, Raploch, Stirling
 1869 M'Kinlay, John, Middlestrath House, Avonbridge
 1873 M'Lachlan, Archibald, 4 Irvine Place, Stirling
 1901 M'Lachlan, John, 20 Barnton Street, Stirling
 1887 M'Laren, D., Cornton, Bridge of Allan
 1891 M'Laren, James, Banderath, Stirling
 1885 M'Laren, J. T., Factor, Polmalse, Stirling
 1903 Maclean, Donald, Pentriggend House, Slamannan
 1900 M'Naughton, Robert, 9 Douglas Terrace, Stirling
 1880 Malcolm, W. T., Dunmore, Larbert
 1901 Marshall, Allan, Mid Leacroft, Bridge of Allan
 1882 Melville, John H., Eriden, Falkirk

Admitted

- 1908 Mitchell, Arch., Waterslap, Larbert
 1890 Mitchell, David, of Millfield, Polmont
 1905 Mitchell, Stephen, of Boquhan, Kippen
 1881 Moir, Alexander, Nether Carse, Gargunnoch
 1901 Monteath, John, Wright Park, Kippen
 1876* Montrose, The Duke of, K.T., Buchanan Castle, Drymen
 1876 More, John, Fordhead, Kippen
 1882 Morries, J. M., Gogar, Stirling
 1880 Morton, David, 1 Pitt Terrace, Stirling
 1903 Morton, David L., King Street, Stirling
 1873 Murray, James, of Touchadam and Polmaise Castle, Stirling
 1873 Murray, Patrick, 1 Glebe Avenue, Stirling
 1895 Murray, W. Watson, Catter House, Drymen
 1899 Neilson, William, Haining Valley, Linlithgow
 1898 Oliver, Capt. Wm. James, Forthside, Stirling
 1905 Orr, Andrew, Coldrach, Drymen
 1905 Paterson, John, Wester Frew, Kippen Station
 1896 Paton, Thomas, 10 Victoria Square, Stirling
 1895 Pearce, John Lennox, Lennox Castle, Campsie Glen, Stirlingshire
 1901 Peat, Alex., Manor Farm, Blairlogie, Stirling
 1881 Pollock, J. J., of Auchinaden, Strathblane
 1887 Pullar, Edmund, Coneyhill House, Bridge of Allan
 1868 Rankine, R. W., Rosebank, Falkirk
 1891 Rawding, George, Mungiehead Road, Bainsford, Falkirk
 1899 Rennie, William, Parkhead, Slamannan
 1900 Risk, John, 18 Park Crescent, Stirling
 1900 Risk, John, Culmore, Kippen, Stirling
 1852 Ritchie, Wm., Pleas Mill, Airth
 1873 Sands, James, Greenfoot, Gargunnoch
 1881 Scott, Rev. John, Camelon Manse, Falkirk
 1884 Scott, Thomas, South Woodend, Castleary Station, Glasgow
 1872 Seouler, John, Crook, Stirling
 1899 Shorthouse, George W., Sauchie Estates Office, Stirling

Admitted

- 1800 Smart, James, Lower Canglour, Stirling
 1893 Smith, James Kemp (Messrs Kemp & Nicholson), Stirling
 1889 Speedie, John C., Stirling
 1902 Steel-Martland, A. D., of Sauchie, Stirling (72 Cadogan Square, London, S.W.)
 1901 Steel-Martland, Mrs. of Barnton, Sauchie Burn, Stirling
 1881 STRUAT, Sir Alan H. Seton, of Touch, Bart., Stirling
 1897 Stevenson, Arch., Golden Lion Hotel, Stirling
 1882 Stevenson, John, Castleary Station, Glasgow
 1904 Stewart, D. Y., Balgrochan, Torrance
 1808 STIRLING, Sir C. E. F., of Glorat, Bart., Milton of Campsie
 1905 Stirling, Commander Millar, of Craigharnet, R.N., Campsie Glen
 1877 Taylor, Robert, Solicitor, Stirling
 1879 Thomson, James, Coach Works, Stirling
 1906 Thomson, John Jas., Myrehead, Linlithgow
 1897 Thomson, Robt., Queenshaugh, Stirling
 1900 Thomson, William, Cauldbarns, Stirling
 1904 Thornley, Thomas, Camelon Works, Falkirk
 1875 Ure, George, Wheatlands, Bonnybridge
 1875 Ure, George R., Hope Park, Bonnybridge
 1898 Wallace, T. Douglas, Callendar Estates Office, Falkirk
 1903 Walls, James, Muirton, Stirling
 1873 Walls, Robert, Kerse Mills, Stirling
 1877 Watson, John, Skipperton, Denny
 1871 Waugh, Allan, Avonbridge, Falkirk
 1881 Wilson, David, of Carbeth, Killearn
 1864 Wilson, E. L., Bannockburn
 1896 Wilson, John E., Burnside, Alva
 1881 Wilson, William, Viewforth House, Bannockburn
 1891 Wilson, William Ralph, Hill Park, Bannockburn
 1867 Young, Andrew, 4 Clarendon Place, Stirling
 1873 Young, William, Taylorton, Stirling
 1896 Yulle, Andrew B., Bellevue, Bridge of Allan

4.—EDINBURGH DISTRICT.

EMBRACING THE

COUNTIES OF EDINBURGH, HADDINGTON, AND LINLITHGOW.

EDINBURGH.

Admitted
 1905 Aikman, James Arch., 6 Glencairn Crescent
 1901 Ainslie, James, Tor, Murrayfield, Edinburgh
 1899 Ainslie, Robert, Dodridge, Ford, Dalkeith
 1885 Aitchison, Lieut.-Col., of Drummorie, Musselburgh
 1899 Aitken, Alfred N. G., S.S.C., 12 Queen Street
 1906 Aitken, John, M.R.C.V.S., Causewayside, Edinburgh
 1889 Alexander, A., 34 St Andrew Square
 1899 Alison, John P., D'Aroy, Dalkeith
 1899 Alison, Robert Barclay, W.S., 11 South Leamonth Gardens
 1875 Allan, James, Jun., 3 Walker Street
 1878 Allan, John, 22 St Albans Road
 1906 Allan, John, 2 Commercial Street, Leith
 1892 Allan, Thomas, Clifton, Mid-Calder
 1899 Allan, William, Redhaughs, Corstorphine
 1904 Allan, William, M.A., B.Sc., 18 George Square
 1906 Allison, James, Carlisle, Kirkliston
 1898 Allison, James, Claylands, Ratho
 1899 Allison, R., Lauriston, Davidson's Mains
 1899 Alston, James, Heriot Mill, Heriot
 1902 Amour, James, Cramond Bridge
 1877 Anderson, Charles, 377 High Street
 1877 Anderson, David, 9 Marton Place
 1904 Anderson, George B., Torphichen Arms Hotel, Mid-Calder
 1884 Anderson, J. R., W.S., 52 Palmerston Place
 1884 Anderson, R. K., 377 High Street
 1881 Anderson, W. M., 18 Wester Coates Gardens
 1899 Anderson, W. W., Colzium, Kirknewton
 1878 Andrew, Robert, 88 Haymarket Terrace
 1876 Archibald, T. B., 36 Craigmillar Park
 1900 Archibald, Adam, Overshiels, Stow
 1885 ARDWALL, Hon. Lord, 14 Moray Place
 1900 Armstrong, John, Saughton Vale, Murrayfield
 1887 Armstrong, W. J., 57 Manor Place
 1900 Arnott, P. R., 10 Murrayfield Road
 1894 Babington, William, 110 George Street
 1898 Bailey, Col. F., Professor of Forestry, Edinburgh University, 7 Drummond Place
 1902 Baillie, John, Rosebank, Currie
 1894 Baird, Archibald, M.R.C.V.S., 40 York Place
 1879 Balfour, Professor I. B., Inverleith House
 1883 Bardgett, John, 22 Broughton Street—
Free Life Member

Admitted
 1907 Bathgate, Chas. P., Middleton Home Farm, Gorebridge
 1901 Bathgate, William Thomson, Middleton Lane Works, Gorebridge
 1878 Beattie, W. J. F., Edinburgh Hydro., Slateford
 1882 Belfrage, A. J., Durham House, Portobello
 1895 Bell, David, Mervue, Ferry Road
 1906 Bishop, Thomas, 35 Charlotte Street, Leith
 1891 Black, A. D. M., W.S., 28 Castle Street
 1896 Black, William, Glenlyon, Ettrick Road
 1899 Blackwood, Geo. Wm., Gogar Mount, Ratho Station
 1899 Blackwood, Jas. Hugh, Gogar Mount, Ratho Station
 1907 Blackwood, J. Lionel, 23 Inverleith Place
 1862 Blackwood, William, 45 George Street
 1905 Black, Hugh, Oak Inn, Corstorphine
 1879 Blair, Patrick, W.S., 19 Ainslie Place
 1899 Blyth, Benjamin Hall, C.E., 17 Palmerston Place
 1907 Borthwick, A. W., Royal Botanic Garden, Inverleith Row
 1899 Borthwick, W., Marchwell, Ratho
 1902 Boyd, Alexander, Broompark, Corstorphine
 1905 Boyd, Thomas, 36 Salamander Street, Leith
 1897 Brand, David, 3 Parliament Square
 1857 Brockley, Robert M., Gourlaw, Rosewell
 1907 Brown, John, Jedville, Corstorphine
 1881 Brown, Richard, C.A., 23 St Andrew Square
 1892 Brown, Robert, Selms Farm, Kirknewton
 1907 Brown, Walter, Jedville, Corstorphine
 1882 Brown, Wm., Curnevale, Currie
 1903 Brown, Wm., Vellore, Polmont Station
 1885 Brownlee, George, Longthorn, Dalkeith
 1877 Bruce, E., 26 Greenside Place
 1900 Bruce, William, B.Sc., Edinburgh and East of Scotland College of Agriculture, 18 George Square—*Free Life Member*
 1878 Bryce, And., Craighenny, Edinburgh
 1858*†BUCCLEUCH and QUEENSBERRY, The Duke of, K.T., Dalkeith House, Dalkeith
 1880 Buchan, Alex., LL.D., 2 Dean Terrace
 1902 Buchan, Andrew, East Ingliston, Ratho Station
 1902 Buchan, Robert, Bonnington Farm, Wilkieston
 1882 Buchanan, Ben., Springbank, Corstorphine
 1892 Buchanan, Charles, Land Steward, Penicuik

Admitted

- 1899 Buchanan, James R., Adambræ, Mid-Calder
1872 Buchanan, John, C.E., 12 Hill Street
1894 Buchanan, Robert, Livingston Mill, Livingston, Mid-Calder
1884 Burn, C. M. P., Prestonfield House, Edinburgh
1906 Byres, William, Baadsmill, West Calder
1906 Cadell, George, 20 Murrayfield Drive
1878 Caird, Alex. M'Neel, 35 Howard Place
1891 Cairns, T. M., A.M.I.E.E., Consulting Engineer, Scotsman Buildings
1887 Cairns, William, Dairyman, Fountain-bridge
1905 Calder, James Charles, 26 Royal Terrace
1887 Callander, Henry, of Preston Hall, Dalkeith
1889 Campbell, Arthur, 4 Randolph Crescent
1889 Campbell, George, W.S., 51 Castle Street
1895 Campbell, James, Illieston, Mid-Calder
1902 Campbell, John T., jun., Shothead, Balerno
1890 Campbell, P. W., W.S., 25 Ainslie Place
1889 Carfrae, Geo. Somervell, C.E., 1 Erskine Place
1887 Chisne, Prof., 26 Charlotte Square
1899 Chisne, Hall C., C.A., 3 Albion Place
1862 Christie, C. J., 6 Glenorchy Terrace
1901 Christie, Harry Duncan, Gordon Terrace, Craigmillar Park
1884 Christie, Wm., Braemar, Whitehouse Terrace
1899 Clark, John, Balleny, Balerno
1899 Clark, John, S.S.C., 2 Bellevue Terrace
1899 Clark, Thos. Bennet, C.A., 64 Queen Street
1905 Clark, Wm. W., Blackhope, Harlot
1895 Clay, Alexander Thomson, W.S., 24 Charlotte Square
1905 Cleghorn, James, Craigour, Gilmerton
1876 Clerk, Sir George Douglas, of Penicuik, Bart.
1875 Clerkson, Alex., 8 Pembroke Place
1898 Cochran, Walter, Fairfield, Kinnear Road
1894 Connell, Isaac, Secretary, Chamber of Agriculture, 10 North St David Street
1884 Cook, Charles, W.S., 61 Castle Street
1882 Cook, Sir Henry, K.O.B., W.S., 61 Castle Street
1892 Cook, James, Arniston, Gorebridge
1885 Cook, William Home, C.A., 42 Castle Street
1860 Cowan, C. W., Dalhousie Castle, Bonnyrigg, Mid-Lothian
1898 Cowan, David, 22 St Andrew Square
1872 Cowan, George, Tournaveen House, 1 Gillsland Road, Colinton Road
1899 Cowan, James, 13 Assembly St., Leith
1879 Cowan, John, W.S., 31 Charlotte Square
1879 Cowan, John, 2 St Andrew Square
1906 Cowan, Kenneth, 12 Church Hill
1902 Cowper, John E. B., Gogar House, Corstorphine
1896 Crabbie, George, of Blairhoyle, 8 Rothesay Terrace
1907 Craig, A. A. Gibson, yr. of Riccarton, Currie
1863† CRAIG, Sir J. H. Gibson, of Riccarton, Bart., Currie—Honorary Treasurer
1900 Craig, John, 12 Dalkeith Road
1877 Craig, Dr William, 71 Bruntsfield Place
1897 Craig, William Cumming, 9 Learmonth Terrace
1883 Cranston, Robert, 28 Lauriston Place
1900 Crawford Robert, of Newbank, Trinity
1894 Crichton, David, 89 Princes Street
1894 Crichton, Wm., Fardruive, Gorebridge
1899 Croall, James Taylor, Castle Terrace
1899 Croall, John Edmund, Castle Terrace

Admitted

- 1899 Croall, Robt. Douglas, Castle Terrace
1868 Crombie, Alex., University Club, Princes Street
1902 Crombie, Thos., 66 Queen Street
1883 Cross, Adam P., Bernard Street, Leith
1880 Cross, Alex., 15 Coburg Street, Leith
1900 Cross, Robert, 13 Moray Place
1897 Cumming, Robert, 10 North St David Street
1870 Cunningham, C., V.S., Slatford
1894 Cunningham, Lawrence, Thornbank, Juniper Green
1898 CUNNINGHAM, Sir Wm. Dick, of Prestonfield, Bart. (c/o Gillespie & Paterson, W.S., 31 Melville Street)
1869 Currer, John F., F.S.I., Land Valuator, 118 Thirlestane Road
1873 Currer, P. R., Burdie House, Loanhead
1862 DALRYMPLE, Sir Charles, of New Hailes, Bart., M.F., Musselburgh
1873 Dalziel, George, W.S., 66 Queen Street
1888 Dalziel, William, Muirhousedyke, West Calder
1904 Darling, Robert, Fairfield House, Dalkeith
1880 Davidson, Geo. P., 14 Melville Street
1877 Davidson, James I., Saughton Mains, Corstorphine
1888 Davidson, W. S., 60a George Street
1877 Dewar, James Cumming, of Vogrie, Ford
1883 Dewar, John R. W., V.S., Principal Dick Veterinary College, 8 Clyde Street
1899 Dick, John, Parkhead, West Calder
1898 Dick, Thomas, Wester Causewayend, Kirknewton
1884 Dickson, James, Damhead, Loanhead
1903 Dickson, Leonard W., 45 Manor Place
1907 Dickson, Robt., Braefoot, Corstorphine
1873 Dickson, W. T., W.S., 11 Hill Street
1901 Dickson, Wm. R., Railway Inn, Colinton
1866 Dobbie, John M'Hutchen, Campend, Dalkeith
1898 Dobbin, Leonard, Ph.D., 7 Cobden Road
1900 Dods, Thomas Watson, Kippilaw, Dalkeith
1902 Douglas, Abram, Dalkeith Mills, Dalkeith
1884 Douglas, James, Cousland, Dalkeith
1907 Douglas, London M., 3 Lauder Road
1899 Douglas, Walter, Mayfield, Dalkeith
1858 Dowell, Alex., 13 Palmerston Place
1894 DRUMMOND, Sir James H. Williams, of Hawthornden, Bart., Lasswade
1902 Dudgeon, Miss Ada, 12 St Catherine's Place
1895 Dudgeon, Alex. H., 12 St Catherine's Place
1856 Dudgeon, J. B., 6 Grosvenor Gardens
1900 Dun, John S., of Gilston, Harlot
1902 Duncan, John T. (Drummond Brothers), India Buildings, Victoria Street
1884 Duncan, Peter, Belmont, Dalkeith
1887 DUNDAS, Hon. Lord, 11 Drumsheugh Gardens
1898 Dundas, Capt. Robert, yr. of Arniston, Gorebridge
1878 Dundas, Ralph, W.S., 16 St Andrew Square
1847 DUNDAS, Sir Robert, of Arniston, Bart., Gorebridge
1880 Dundas, William J., C.S., 16 St Andrew Square
1877 DUNEDIN of Stenton, Lord, 7 Rothesay Terrace
1872 Dunlop, George, W.S., 20 Castle Street
1905 Durie, John, 64 Albany Street
1878 Dykes, James, Quicken, Penicuik
1904 Eaglesham, James, Crookston, Inveresk
1877 Elder, James, Roddinglaw, Currie

Admitted

- 1892 Elder, Samuel, Whitehill Mains, Musselburgh
 1906 Elliot, Thos., 6 Mansfield Place
 1906 Elliot, Walter, 6 Mansfield Place
 1867 Elphinstone, Hon. E. B., Inveresk Lodge, Musselburgh
 1898 Elphinstone, Lord, Carberry Tower, Musselburgh
 1875 Fernie, James A., Smeaton, Dalkeith
 1899 Findlay, John R., 27 Drumsheugh Gardens
 1890 Fisher, Thomas, Whitehill, Rosewell
 1893 Fleming, John, Coates, Penicuik
 1875 Fletcher, John D., 44 Garscube Terrace
 1906 Fogo, J. Row, of Row, 41 Castle Street
 1865 Foggo, R. G., Western Terrace, Murrayfield
 1878 Ford, G., Saughton Hall Mains, Gorgie
 1871 Forgan, Andrew, 10 Claremont Terrace
 1868 Forrest, Peter, The Hird, Braid Avenue
 1877 Foulis, David, 61 George Street
 1868 Fraser, Alex., 17 Maldon Street
 1907 Fraser, R. Atkinson, 1 Forbes Street
 1865 Fraser, William, 8 Comely Bank Terrace
 1899 Fullarton, John, Mid-Kinleith, Currie
 1861 Fyfe, Robert, 22 Viewforth Gardens
 1906 Fyfe, William, 4 Wolseley Place
 1894 Gardner, Adam, Melville Grange, Gilmerton
 1902 Gardner, Daniel, Langhill, Roslin
 1877 Gardner, William, East Langton, Mid-Caldor
 1886 Garson, Wm., W.S., 5 Albany Place
 1899 Gibson, James P., 38 Regent Terrace
 1886 Gibson, Rev. John, 22 Regent Terrace
 1889 Gibson, Thos., East Marchiston Villa, 4 Colinton Road
 1895 Gibson, Thomas R., Bainsfield Iron Works, Fountainbridge
 1896 Gilbert, T. Johnson, 10 Warriston Crescent
 1899 Gillespie, Alex. L., 13 Assembly Street, Leith
 1890 Gilmour, Col. R. Gordon, C.B., D.S.O., of Craigmillar, Edinburgh
 1869† Glendinning, G. R., Tyne Lodge, Grange
 1874 Glendinning, J. P., Overshiels, Mid-Caldor
 1896 Glendinning, Patrick B., Tyne Lodge, Grange Loan
 1902 Gow, Peter D., Bonaly, Colinton
 1893 Graham, David, Northfield, Duddingston, Edinburgh
 1905 Graham, James, Windlestrawlee Farm, Ferry Road, Eginburgh
 1904 Graham, John (Munter, Howie, & Co.), 24 Market Street
 1905 Graham, Robert, Dalhousie Mains, Dalkeith
 1873 Granger, Andrew, 15 Leamington Terrace
 1861 Gray, James, Braehead Mains, Cramond Bridge
 1884 Gray, James, Harperigg, Kirknewton
 1899 Gray, James L., Eginbaugh, Dalkeith
 1878 Gray, Robert Smith, Southfield, Duddingston
 1899 Gray, William, Braehead, Cramond
 1901 Green, Chas. Edward, The Hollies, Gordon Terrace, Craigmillar Park
 1870 Greig, James A., 98 Findhorn Place
 1877 Greig, R. M., 65 Braid Road
 1889 Grey, John Edward, 20 Lauriston Place
 1907 Guest, Edward Graham, 5 Newbattle Terrace
 1893 Guild, Alex., Aberlady Mains, Aberlady (5 Rutland Square)
 1877 Gulland, W. J., Monkton Hall, Musselburgh

Admitted

- 1904 Gunning, Thomas, Russelield, Corstorphine
 1884 Guthrie, Wm., 22 Viewforth Terrace
 1899 Haldane, Francis G., W.S., 4 North Charlotte Street
 1899 Haldane, R. Stuart, 2 Seaview Terrace, Joppa, Portobello
 1907 Hamilton, David Rae, Catcune Mills, Gorebridge
 1905 Hamilton, James, Old Liston, Ratho
 1878 Hamilton, Robert, 18 Waterloo Place
 1906 Hamilton, William, 47 George Street
 1906 Hamilton, William H., of Cairns, Kirknewton
 1900 Hanton, John, Engineer, Dalkeith
 1905 Harding, George, 5 George IV. Bridge
 1884 Harper, James, Fordell, Dalkeith
 1871 Harper, Wm., Sheriffhall Mains, Dalkeith
 1906 Heggie, Robert, Bangour Asylum, Uphall
 1893 Henderson, Allan M., 66 Frederick Street
 1876 Henderson, John, C.A., 40 Leamington Terrace
 1899 Henderson, Robert, Craigie, Cramond Bridge
 1876 Herdman, B. A., West Pilton House, Davidson's Mains
 1902 Herdman, John, 46 Constitution Street, Leith
 1899 Herdman, Thomas A., Southside, Gorebridge
 1863 Higgins, Robert, 18 Garscube Terrace, Murrayfield
 1876 Hogg, Robert, 49 Falcon Avenue
 1880 Hogg, Thos., Oxenford Mains, Dalkeith
 1893 Hogg, William, jun., 6 Wardie Crescent
 1878 Horn, Sir Alexander, of Pinkie, Bart., Pinkie House, Musselburgh
 1877 Hope, James Edward, New Club
 1907 Howden, John M., C.A., 8 York Place
 1864 Howe, Alexander, W.S., 32 Charlotte Square
 1906 Hunter, David, Monkton Lodge, 62 St Alban's Road
 1903 Hunter, Frank, W.S., 7 York Place
 1877 Hunter, J., jun., Woodhall Mains, Juniper Green
 1894 Hunter, John, 87 Chambers Street
 1875 Hutchison, Thos., Broomhills, Loanhead
 1899 Hutchison, Wm., Burghlee, Loanhead
 1877 Inch, Robert, 1 Victoria Street
 1869 Inglis, A. W., 30 Abercromby Place
 1884 Inglis, H. H., W.S., 8 North St David Street
 1899 Inglis, Joseph, W.S., 110 George Street
 1902 Inglis, William, Bonnington Mills, Leith
 1899 Irons, Jas. Hay (Croall & Sons, Ltd.), Castle Terrace
 1898 Irons, George Campbell, 10 Dundas St
 1903 Jack, Alex., Brunstane Mills, Musselburgh
 1907 Jack, Arch. G., Crichton Mains, Ford, Dalkeith
 1873 Jack, Gavin, Swanston, Lothianburn
 1902 Jack, Gny, Hermiston Farm, Hermiston
 1905 Jack, J. Douglas, North Gyle, Corstorphine
 1860 Jack, Samuel, Crichton Mains, Dalkeith
 1869 Jack, Thomas, Hermiston, Currie
 1907 Jackson, Richard F., Cathpair, Stow
 1874 Jamieson, J. A., W.S., 66 Queen Street
 1858 Jamieson, Wm. H., 4 Danube Street
 1880 Jenkinson, A. D., 10 Princes Street
 1872 Johnson, W. H., Tweed Villa, Relugas Road
 1902 Johnston, Andrew, 28 Garscube Terrace
 1894 Johnston, Hon. Lord, 88 Moray Place
 1862 Jones, Charles Digby, 12 Chester Street
 1901 Keay, Dr John, Lunatic Asylum, Bangour, Uphall

Admitted

- 1906 Keegan, Chas. B., Spittal, Penicuik
 1878 Kennedy, Capt. J. B., 34 Murrayfield Road
 1888 Kerr, George, 6 St Colme Street
 1899 Kerr, Hugh C., Blacksmith, Corstorphine
 1902 Kidd, Alex., Nether Lennie, Gramond Bridge
 1871 King, J. F., Chambers Street
 1903 Kinneair, Norman Boyd, 12 Grosvenor Crescent
 1897 Kirk, W. J., 40 Palmerston Place
 1896 Kirkwood, W. H., Lothian Bridge, Dalkeith
 1899 Knoblauch, Hugo, 22 Baltic Street, Leith
 1902 Knoblauch, Louis, Agra Lodge, Bonnington, Edinburgh
 1877 Laing, Alex., S.S.C., 67 Great King Street
 1898 Laird, Robert, 17 Frederick Street
 1895 Lamont, James, 41 Comely Bank Road
 1905 Lauder, Alex., D.Sc., F.C.S., 13 George Square
 1899 Lauder, Alex., Goshen, Musselburgh
 1902 Lawrie, John, Wester Hailes, Juniper Green
 1872 Lawrie, John W., Ashbank, Gorebridge
 1872 Lawrie, Thos., Esperston, Gorebridge
 1899 Lawrie, Thomas, Drylaw, Davidson's Mains
 1905 Lawson, Alex. R., Galawater Estate, Fountainhall
 1868 Lees, Richard, 9 Braidburn Terrace
 1907 Leggett, R. Lindsay, 2 Ravelstone Terrace
 1897 Leitch, Robert, 2 St Andrew Square
 1907 Leslie, Lewis, 6 Maybank Villas, Corstorphine
 1905 Lewis, John, Fairfield, Corstorphine
 1878 Lindsay, Hugh, Barnet Bank House, Lasswade
 1884 Lindsay, Robert, Kaimes Lodge, Murrayfield
 1906 Lindsay, R., Sanitary Inspector, County Buildings
 1884 Logan, Sir C. B., W.S., 23 Queen Street
 1898 Logan, Robt John, 23 Melville Street
 1899 Logan, William, Easter Kilmieith, Currie
 1872 Loney, Peter, 6 Carlton Street—*Free Life Member*, 1892
 1898 LOTHIAN, Marquis of, Newbattle Abbey, Dalkeith
 1874 Lothian, M. J., Redwood, Spylaw Road
 1898 London, John, Muldron, Fauldhouse
 1902 Love, David, Dean Park, Balerno
 1891 Lowe, W. D., W.S., 66 Queen Street
 1902 Lowrie, John, 57 Harrison Road
 1872 Loyal, William, 83 Comiston Road
 1874 McCallum, A. I., 30 King's Stables Road
 1882 McCowan, Alex., 5 Barnon Gardens, Davidson's Mains
 1883 Macdonald, James, 8 George IV. Bridge—*Secretary of the Society*
 1886 Macdonald, R. B., Granton Mains, Edin.
 1899 M'Dougall, And., Willow Bank, Corstorphine
 1878 M'Dowall, T. N., Remote, Dalkeith
 1865 Macfie, D. J., of Borthwick Hall, Heriot
 1898 Macfie, J. W., of Draghorn, Colinton
 1877 M'Gowan, Robert, 8 Succoth Gardens
 1870 M'Gowan, William, 8 Succoth Gardens
 1903 M'Intosh, John W., M.R.C.V.S., Eskbank, Dalkeith
 1884 Mackay, W. B., 17 Lennox Street
 1892 M'Kechnie, Dugald, 60 Northumberland Street
 1900 M'Kelvie, James, Hatton House, Kirknewton
 1907 Mackenzie, Alex., 19 Greenhill Gardens
 1879 Mackenzie, A. D., 14 Greenhill Park
 1884 Mackenzie, D. F., Morton Hall, Liberton
 1879 Mackenzie, John, W.S., 16 Royal Circus

Admitted

- 1897 Mackenzie, Stewart, 24 Shandon Street
 1882 M'Kerral, R. M., 11 Rutland Square
 1899 Mackinlay, James, 87 Constitution St., Leith
 1892 M'Kinnon, George, Melville Castle, Lasswade
 1878 MacLagan, R. C., M.D., 5 Coates Crescent
 1896 M'Laren, J. D. M., c/o D. M'Laren & Co., Leith
 1897 M'Lean, Allan T. L., Duart Lodge, 73 Colinton Road
 1902 M'Lennan, George M., 14 Cluny Terrace
 1894 M'Leod, A. G., 48 Castle Street
 1899 M'Nee, Peter, 92 Grassmarket
 1883 Macpherson, C. E. W., C.A., 6 North St David Street
 1879 MacRitchie, David, 4 Archibald Place
 1907 M'Vitie, Robt., 12 Greenhill Gardens
 1876 M'William, Mrs., 22 Forbes Road
 1893 Madder, J. W., 4 Elcho Terrace, Portobello
 1896 Main, James, Corn Exchange Buildings
 1880 Marshall, Rev. Theodore, 22 Queen Street
 1903 Martin, John, Letham, Mid-Caldor
 1867 Martin, John M., Murieson House, Mid-Caldor
 1886 Massie, W. H., 1 Waterloo Place
 1875 Mather, Edward, Marchfield, Davidson's Mains
 1899 Mather, Matthew, Silverknowes, Davidson's Mains
 1900 Mathison, James, Dean Park, Craigleith, Edinburgh
 1900 Mathison, William, of Shoestanes, Heriot
 1899 Maxwell, David, 128a George Street
 1891 Meikle, R. A., 2 London Street
 1886 Melville, G. F., 12 Moray Place
 1899 Melvin, Alex., Commercial Bank, 42 Grassmarket
 1863 Menzies, D., C.E., 39 York Place
 1871 Menzies, Robert, S.S.C., 23 York Place
 1899 Mercer, George G., Southfield, Dalkeith
 1870 Merricks, H. J., The Retreat, Blackshields
 1892 Methuen, John, Dunforth, Trinity
 1884 Methven, John, 6 Bellevue Crescent
 1902 Miller, James, Pumpherton Farm, Mid-Caldor
 1904 Miller, J. A. S., W.S., 20 Castle Street
 1905 Miller, J. W., Leyden Park, Bonnyrigg
 1897 Miller, Thomas J., C.A., 30 York Place
 1893 Milligan, J. M., 5 Royal Terrace
 1883 Milne, Alex., 32 Hanover Street
 1869 Mitchell, Wm., S.S.C., 11 South Charlotte Street
 1876 Moir, Peter, 2 West Richmond Street
 1885 Moncreiff, Hon. Jas. W., 6 Ainslie Pl.
 1907 Moncur, James L., Orest, 16 Greenhill Terrace
 1908 Monteith, Bryden, Tower Mains, Liberton
 1908 Morrison, James, 18 George Street
 1904 Morrison, John H., Elvarbank, Milton Road, Joppa
 1886 MORRISON, The Earl of, Dalmahoy, Wilkieston
 1904 Morton, Alex., Merchiston Cottage, 6 Colinton Road
 1899 Mounat, Alexander, 17 Claremont Park, Leith
 1899 Muir, John, Freeland, Ratho
 1899 Muir, William, Newhouse, Kirknewton
 1865 Muirhead, George, 80 Charlotte Square
 1887 Mungle, John T., West Calder
 1905 Munro, Alex. J., 48 Castle Street
 1891 Munro, Duncan, 8 Dalrymple Place—*Free Life Member*
 1904 Murray, Jas. W., Outerston, Gorebridge
 1875 Murray, R. W. E., Blackford House, Blackford Avenue—*Free Life Member*

Admitted

- 1857 Murray, Thomas, Braidwood, Penicuik
 1890 Murray, T. M., W.S., 12 Lennox Street
 1905 Murray, Wm., Inglewood, Corstorphine
 1885 Murray, Wm. Hugh, W.S., 48 Castle Street
 1890 Mylne, James, W.S., 36 Castle Street
 1888 Naismith, R. T., 2 Ethel Terrace, Plewlands
 1902 Nelson, Thos. Arthur (of Achnacloch), St Leonard's, Edinburgh
 1896 Nicholson, W. D., 3 Hartington Gardens
 1907 Nisbet, J., Summerlea, Corstorphine
 1880 Niven, A. T., C.A., 16 Young Street
 1883 Oliver, James, 11 Claremont Terrace
 1880 Oliver, John, 12 Viewforth
 1900 Panton, John, H.M. Prison, Waterloo Place
 1906 Park, Robert, Brunstane, Portobello
 1889 Pate, Thomas, Windydoors, Stow
 1878 Paterson, James, of Bankton, Mid-Calder
 1876 Paterson, J. T. S., Coltbridge House, Edinburgh
 1869 Paterson, Thomas, W.S., 15 South Charlotte Street
 1890 Patten, Hugh, W.S., 42 Castle Street
 1880 Paul, Geo. M., C.S., 16 St Andrew Square
 1901 Pearson, Andrew, Dalkeith Park, Dalkeith
 1899 Pearson, Dalziel, W.S., 27 Royal Terrace
 1878 Pendreigh, George, Upper Dalhousie,
 Dalkeith
 1893 Pitman, A. R. C., W.S., 48 Castle Street
 1907 Player, Jas. F., M.R.C.V.S., Tollcross
 1906 Plenderleith, William, Rosewell Mains, Rosewell
 1894 Poole, Wm., Corn Exchange Buildings
 1905 Porter, John, B.Sc., 13 George Square
 1865 Prentice, R. R., 6 Mayfield Terrace
 1899 Pretsell, James, Pentlands Mains, Loanhead
 1876 Fringle, J., 9 Bothesay Terrace
 1899 Fringle, James, Orichton House, Pathhead, Ford
 1907 Ralph, Wm., I.S.O., Lisnacree, Corstorphine
 1902 Ralston, Gavin W., Advocate, 6 Abercrombie Place
 1881 Ramsay, R. G. Wardlaw, of Whitehill, Rosewell
 1890 Ramsay, William, of Bowland, Stow
 1874 Rankine, Prof. John, 28 Ainslie Place
 1887 Readman, J. B., 4 Lindsay Place
 1893 Reid, James, W.S., Drem, East Lothian (2 Thistle Court)
 1888 Renwick, Andrew, East Pilton, Edinburgh
 1879 Renwick, Wm., Meadowfield, Corstorphine
 1907 Richardson, Henry E. (of Broadshaw, West Calder), 31 Melville Street
 1877 Riddell, A., 5 Grassmarket
 1899 Riddell, Sir A. Oliver, Craiglockhart House, Slateford
 1898 Ritchie, C., 31 Argyll Crescent, Portobello
 1869 Ritchie, Charles, S.S.C., 20 Hill Street
 1907 Robbie, Arch., Castlepark, Corstorphine
 1884 Robertson-Durham, J. A., C.A., 88 Charlotte Square
 1876 Robertson, Lieut.-Col. James C., United Service Club, Shandwick Place
 1904 Robertson, John, W.S., 66 Queen Street
 1905 Rodger, J., Saddler, Corstorphine
 1873 Rodgie, Henry, Over Gogar House, Hermiston
 1899 Rose, Alex., 58 Grassmarket
 1872 Ross, George, 69 Leamington Terrace
 1907 Ross, Jas. Paull, W.S., 19 Charlotte Square

Admitted

- 1905 Runciman, Alex., Hatton Mains, Kirknewton
 1902 Runciman, R. H., 30 Haddington Place
 1886 Russell, A., 12 Wester Coates Avenue
 1899 Russell, A. M., 29 Grassmarket
 1893 Russell, Sir James Alex., Woodville, Canaan Lane
 1872 Rutherford, A., Lilrig, Belgrave Road, Corstorphine
 1887 Rutherford, Richard, V.S., Bread Street
 1880 St Clair, J. S., Musselburgh
 1892 Sanford, Major Charles Henry, Beeslack, Milton Bridge
 1902 Scarlett, Jas. W., Sweethope, Inveresk
 1886 Scott, Alex., 66 Netherby Road, Leith
 1891 Scott, Rev. Arch., D.D., 16 Bothesay Place—*Chaplain to the Society*
 1907 Scott, James, Russellfield, Corstorphine
 1898 Scott, John, 12 North St Andrew Street
 1904 Scott, John, 42 Braid Crescent
 1901 Scott, William, jun., Newbridge, Ratho
 1905 Semple, Andrew, Rosebank, Mid-Calder
 1848 Seton, Geo., Conservative Club, Princes Street
 1899 Shaw, David, W.S., 1 Thistle Court
 1899 Shields, Geo. Bertram, Wallyford, Musselburgh
 1889 Shiells, James, Muirhouse, Stow
 1896 Sime, John, 40 Princes Street
 1901 Simpson, John, Halfakill, Tynehead
 1906 Simpson, J. Rhys, Coulsland, Dalkeith
 1898 Simpson, Mark F., Duddingston Farm, Portobello
 1878 Simpson, Thomas, Duddingston Farm, Portobello
 1874 Simson, C. S., 42 Charlotte Square
 1881 Smith, A. D., C.A., 4 York Place
 1899 Smith, Geo. Gardiner, Georgeville, Mid-Calder
 1895 Smith, Harry W., W.S., 23 Nelson Street
 1899 Smith, Henry, W.S., 5 South Charlotte Street
 1867 Smith, J. Turnbull, LL.D., 5 Belgrave Place
 1877 Smith, Robt., 8 Rochester Terrace
 1901 Smith, Robert, Cranston Riddell, Dalkeith
 1899 Smith, R. Addison, S.S.C., 19 Heriot Row
 1896 Smith, Stephen, 47 George Street
 1884 Smith, Thomas H., National Bank, Edinburgh
 1884 Smith, William, 7 Grassmarket
 1899 Smith, Wm., West Hartwood, West Calder
 1899 Snodgrass, Jas., Bryans, Dalkeith
 1899 Snodgrass, Matthew W., Langside, Dalkeith
 1899 Snodgrass, Peter L., Hopefield, Bonnyrigg
 1907 Snow, Charles F., 10 Clifton Terrace
 1906 Somerville, John White, Carcant, Heriot
 1893 Sommer, George (Peter Lawson & Son, Limited), 1 George IV. Bridge
 1893 Stark, James, 26 Earl Grey Street
 1906 Stark, Robert, Nether Williamston, Mid-Calder
 1895 Stedman, James, jun., Middletown, Fountainhall, Mid-Lothian
 1861 Stenhouse, Jas., Turnhouse, Cramond Bridge
 1899 Stenhouse, John Robert, South Gyle, Corstorphine
 1903 Stenhouse, Wm., Springfield Mills, Leith Walk
 1884 Stenart, J. H., Belstane, Kirknewton
 1886 Stevenson, David Alan, C.E., 84 George Street
 1902 Stevenson, Wm. Scott, Secretary, College of Agriculture, 18 George Square
 1906 Stewart, Geo., Contentibus, Mid-Calder

Admitted

- 1881 Stewart, G. M. F., 125 George Street
 1898 Stewart, James Robert Hunter, 29 St Andrew Square
 1900 Stewart, M. Muir, 11 Eglinton Crescent
 1901 Stewart, R. T., Seaforth, Levenhall, Musselburgh
 1894 Stewart, William, Dalhousie Castle, Ig.
 1899 Stewart, W. M., 5 Inverleith Terrace
 1878 Stodart, J. A., Broomvale, Broomieknowe, Lasswade
 1890 Stoddart, James Edward, of Howden, Mid-Calder
 1878 Strathern, Robt., W.S., 12 South Charlotte Street
 1906 Stungo, S. S., 47 Cockburn Street
 1865 Sutherland, Jas. B., S.S.C., 10 Royal Terrace
 1858 Swan, James, Haymarket
 1894 Tait, R. M., c/o Mrs Harle, East Craigie, Crumond Bridge
 1906 Tait, Wm. Ferrier, Galaside, Heriot
 1893 Taylor, J. Pringle, Dunsmure, Corstorphine
 1902 Taylor, James, Lochend Farm, Abbeyhill
 1893 Taylor, James (Easter Drylaw), Edinburgh
 1884 Taylor, Peter, Lochend
 1899 Taylor, Thomas W., Seed Merchant, Dalkeith
 1884 Thin, John, Ferniehirst, Stow
 1858 Thomson, James, 53 George Street
 1895 Thomson, James, yr. of Glenpark, Balerno
 1873 Thomson, Sir Mitchell, of Polmood, Bart., 9 South St Andrew Street
 1859 Thomson, Peter, Conservative Club, Princes Street
 1888 Thomson, Robert, Rusha, West Calder
 1899 Thomson, R. J., 2 Wilton Road
 1902 Thomson, S. M., 7 Warrender Park Crescent
 1900 Thomson, W. W., 21 Chester Street
 1906 Tillie, David, Brothershields, Heriot
 1902 Tillie, John, Hangingshaw, Heriot
 1902 Tillie, Thos. G., 12 Melbourne Place
 1900 Todd, A. Enever, Stoneybank, Musselburgh
 1876 Todd, David, 2 Dick Place
 1877 Torrance, T. A., Annfield, Lasswade
 1899 Trotter, Alex. E. C., Bush, Milton Bridge
 1878 Tuke, Dr Str J. B., M.P., Balgreen, Gorgie, Edinburgh
 1874 Turnbull, David, W.S., Hailes, Slateford
 1868 Turner, Principal Sir W., 6 Eton Terrace
 1878 Tweedie, A. G., 50 Blacket Place
 1901 Urnston, Charles Hanson, W.S., 19 Merchiston Place
 1896 Usher, Frank James, Norton, Ratho Station
 1900 USHER, Sir Robert, of Norton, Bart., 37 Drumshough Gardens
 1903 Usher, Thomas Leslie, 8 Whitehouse Terrace
 1874 Waddell, A. Peddie, 6 Albyn Place
 1888 Waddell, George, 21 St Andrew Square
 1902 Waddell, Wm., South Melville, Lasswade
 1902 Waddell, Wm., jun., South Melville, Lasswade
 1857 Wakelin, John, Oil Mills, Musselburgh
 1899 Wakelin, J., Agricultural Hall, Valleyfield Street
 1877 Walcott, John, Craiglockhart Hydro-pathic, Slateford
 1899 Waldie, D., 25 Douglas Crescent
 1899 Waldie, J. Paterson, Haymarket, Edinburgh
 1902 Walker, Alex., Cairntows, Liberton

Admitted

- 1895 Walker, Graham W., c/o Colquhoun, 9 Merchiston Crescent
 1899 Walker, John, 23 Lismore Crescent
 1898 Walker, Robt., Kaimos Road, Murrayfield
 1882 Walker, R. H., of Hartwood, West Calder
 1898 Wallace, J. W., W.S., 11 Claremont Park, Leith
 1902 Wallace, Richard, Dreghorn Mains, Colinton
 1878 Wallace, Prof. Robert, University, Edinburgh—*Free Life Member*
 1902 Wallace, W. B., Broomhouse, Corstorphine
 1869 Watherston, James, 29 Queensferry St.
 1898 Watson, Gilbert, 2 Chamberlain Road
 1882 Watson, G. G., W.S., 4 Glenfinlas Street
 1873 Watson, James Gaham, 19 Drumshough Gardens
 1864 Watson, John, Kingsbeck, Cluny Drive
 1882 Wauchope, Sir J. D. D., of Edmonstone, Bart., 12 Ainslie Place
 1901 Weatherstone, John, Airfield, Dalkeith
 1908 Welsh, Robert, Liberton Mains, Liberton
 1877 Welwood, J. A. Maconochie, Meadowbank House, Kirknewton
 1889 Wemyss, A. W., 8 Arboretum Road
 1876 White, James, Stagehall, Stow
 1872 White, Robert, 19 Perth Street
 1901 White, Robert S., Halkerston, Gorebridge
 1893 White, Samuel, Lugate, Stow
 1899 White, William, Gortonlee, Lasswade
 1902 Wight, A. D., West Bush Oil Mills, Musselburgh
 1898 Wight, George, Suffolk House, Suffolk Road
 1905 Wight, John, Greenpark, Corstorphine
 1884 Wight, Robert, Suffolk House, Suffolk Road
 1898 Wilkie, Alex., 219 Bruntsfield Place
 1873 Will, Robert W., S.S.C., 37 Queen Street
 1899 Wilson, Jas., Torcraik, Gorebridge
 1862† Wilson, John, 26 Leander Road
 1858 Wilson, Richard, C.A., 28 Great King Street
 1897 Wishart, D. F., 18 Picardy Place
 1890 Wylie, James, Royal Bank, Leith
 1905 Wylie, James, The Craigs, Mid-Calder
 1884 Wylie, Alex., 56 Great King Street
 1854 Young, Hon. Lord, 28 Moray Place
 1902 Young, James, East Craigs, Corstorphine
 1896 Young, John, Straiton, Loanhead
 1898 Young, Robert, 3 Abbotsford Park
 1906 Young, Wm. Jackson, M.R.C.V.S., 39 Leamington Terrace
 1870 Younger, Henry J., Abbey Brewery
 1899 Younger, H., yr. of Benmore, Abbey Brewery
 1899 Younger, J. A. C., Abbey Brewery
 1899 Younger, Wm. J., 21 Douglas Crescent

HADDINGTON.

- 1889 Anderson, Francis, Lindisfarne, North Berwick
 1859 Anderson, G. B., Melkie Pinkerton, Dunbar
 1873 Anderson, W. W., of Kingston, North Berwick
 1892 Baillie, Wm., Nurseries, Haddington—*Free Life Member*
 1860 Baird, Sir David, of Newbyth, Bart., Prestonkirk
 1863† BALFOUR, Right Hon. A. J., of Whittingehame, M.P., Prestonkirk

Admitted

- 1888 Bayley, Isaac F., Halls, Dunbar
 1898 Bertram, Andrew, Townhead, Gifford
 1898 Binnie, Wm. A. G., Burnieknowes, Cockburnspath
 1902 Black, George, Penston, Macmerry
 1892 Blair, Thomas, Hoprig Mains, Gladsmuir
 1902 Blyth, Andrew, Tynninghame, Prestonkirk
 1906 Bowe, W. C., Thorntonloch, Innerwick
 1873 Brand, James, Dunbar
 1880 Bridges, A. S., Engineer, Haddington
 1898 Broadwood, T., Crowhill, Innerwick
 1902 Brooks, Andrew, North Elphinstone, Tranent
 1899 Brown, Malcolm, Ugston, Haddington
 1898 Brown, Wm., Templehall, Ormiston
 1900 Buchan, William, Biel Grange, Prestonkirk
 1899 Buist, Robert, Whitekirk, Prestonkirk
 1899 Cairns, John, Waughton, Prestonkirk
 1884 Calder, Robt., Cairndinies, Haddington
 1864 Clark, James, Kirklandhill, Prestonkirk
 1893 Clark, John, Saltcoats, Gullane
 1880 Clark, Thomas, Oldhamstocks Mains, Cockburnspath
 1996 Cockburn, David, Castleton, North Berwick
 Connor, G. A., Craigielaw, Longniddry
 1897 Cook, Chas. W. L., Woodhall, Pencaitland
 1886 Courtney, Wm., Portobello Farm, Tranent
 1895 Curr, William Simpson, Ninewar, Prestonkirk
 1905 Davis, William, Seedsman, Haddington
 1896 Deans, John H., Fitcox, Dunbar
 1900 Dickson, James, West Byres, Ormiston
 1877 Donald, Andrew, Queenston Bank, Durlston
 1884 Elcho, Lord, Gosford, Longniddry
 1890 Elder, James, Haddington
 1890 Elder, Thomas, Stevenson Mains, Haddington
 1906 Elliot, Wm. Pringle, Duncrahill, Pencaitland
 1907 Ellis, Wm., Murrays, Ormiston
 1849 Ford, Wm., Fenton Barns, Drem
 1899 Fraser, John H., East Pinkerton, Dunbar
 1877 Fyshe, Peter, Newtonleas, Dunbar
 1904 Gemmell, William, Greendykes, Macmerry
 1899 Gibson, Walter H., Camptoun, Haddington
 1889 Gillespie, William, Athelstaneford, Drem
 1899 Gillespie, Wm., jun., Athelstaneford, Drem
 1855 Gray, William, Brownrigg, North Berwick
 1882 Gray, W. W., of Nunraw, Prestonkirk
 1876 Greenshields, T. A., Windymains, Salton
 1898 Gregor, Charles E., Innerwick, East Lothian
 1905 Hadden, Thomas, Chesterhall, Longniddry
 1857*† HADDINGTON, The Earl of, Tynninghame, Prestonkirk
 1878 HALL, Sir Basil F., of Dunglass, Bart., Cockburnspath
 1872 Handyside, J. B., Fenton, Drem
 1862 Hay, Captain J. G. Baird, of Belton, Dunbar
 1885 Henderson, George, Upper Keith
 1893 HEPBURN, Sir Archibald Buchan, of Smeaton, Bart., Prestonkirk
 1907 Hogg, George, jun., Newlands, Gifford
 1886 Hope, Harry, Barneyhill, Dunbar
 1865 Hope, Henry W., of Luffness, Drem

Admitted

- 1847 Hope, James, East Barns, Dunbar
 1878 Hope, William James, East Barns, Dunbar
 1898 Horn, Wm., of Woodcote Park, Blackshields
 1877 Houston, M. H., of Beechhill, Haddington
 1887 Hunter, Richard, of Thurston, Dunbar
 1899 Jeffrey, James, Deuchrie, Prestonkirk
 1884 Kerr, John, Barney mains, Haddington
 1878 King, William, jun., Wolfstar, Ormiston
 1859 KINLOCK, Sir Alex., of Gilmerton, Bart., Drem
 1885 Kinloch, Colonel David A., yr. of Gilmerton, Drem
 1898 Kinnaird, Andrew, The Grange, Garvald, Prestonkirk
 1898 Lee, Joseph, of Congalton, North Berwick
 1863 Leslie, James, Beanston, Haddington
 1905 Logan, David, Saltoun Hall, Pencaitland
 1864 M'Ewen, J., Redside Farm, North Berwick
 1899 M'Kelvie, William, Duncanlaw, Gifford
 1908 Mackie, Alex. Kirk, West Fortune, Drem
 1877 Mark, John, Sunnyside, Prestonkirk
 1899 Mason, William, Amisfield Mains, Haddington
 1899 Mathewson, Adam, Leehouses, Haddington
 1900 Maxwell, R. N., Craigielaw Farm, Aberlady
 1899 Millar, W., Tranent
 1897 Muirhead, Jas., Spittlerigg, Haddington
 1870 Murray, David, Quarryford, Gifford
 1871 Nelson, Charles, Skateraw, Innerwick
 1898 Nicholson, W. L., Gullane
 1890 Nisbet, C. G., of Stobshiel, Upper Keith
 1899 Ogilvy, H. T. N. Hamilton, Biel, Prestonkirk
 1899 Pace, Ferrier, Ormiston Mains, Ormiston
 1900 Park, John, Setonhill, Longniddry
 1904 Park, Matthew, Hoprig, Macmerry
 1806 Park, Thos. B., Springfield, Haddington
 1899 Parr, John, Abbey Mains, Haddington
 1899 Paterson, Thomas L., Nisbet, Pencaitland
 1865 Panton, F. H., The Lodge, Aberlady
 1894 Reid, James, Tynholm, Pencaitland
 1904 Richard, J. M. M., Gilmerton, Drem
 1898 Riddell, David, West Peaston, Ormiston
 1898 Riddell, George, Mungoswells, Drem
 1880 Riddell, John, West Peaston, Ormiston
 1907 Riddell, John, jun., West Peaston, Ormiston
 1862 Riddell, Wm., Cocklaw, Oldhamstocks
 1893 Ritchie, J. B., Samuelston, Haddington
 1894 Robertson, John, Beanston Mains, Haddington
 1874 Robson, John, Millknowe Cranshaws, Duns (Newton, Bellingham)
 1895 Ronaldson, George, Kilduff Mains, Drem
 1907 Ross, T. F., Muirfield, Gullane
 1899 Russell, Charles, West Mains, Haddington
 1902 Russell, Thomas, Windygoul, Tranent
 1883 Scott, G. B., Commercial Bank, Dunbar
 1878 Sharp, John J., Ewingston, Gifford—
Free Life Member
 1877 Shields, James, Longniddry
 1899 Shiels, Thomas J., Carrae, Prestonkirk
 1887 Simpson, James, Castlemains, Drem
 1868 Smith, Andrew, Markie, Prestonkirk
 1882 Smith, E. Hedley, R.L., Whittingehame, Prestonkirk—*Free Life Member*
 1908 Smith, George, Craigielaw, Longniddry
 1891 Spence, A. G., Long Yester, Gifford
 1894 Steven, John, Boghie, Haddington

Admitted

- 1899 Stewart, Alex. F., Marvingston, Haddington
 1907 Stewart, James, Pressmennan, Prestonkirk
 1898 Stewart, John, Saughland, Tynehead
 1899 Stewart, John, Tanderlane, Prestonkirk
 1907 Stewart, John M., Stoneypath, Prestonkirk
 1905 Stodart, Hugh, Wintonhill, Pencaitland
 1897 Stodart, John, Adinston, Macmerry
 1862 Swinton, P. Burn, Holyn Bank, Gifford
 1907 Tait, John, Nether Hailes, Haddington
 1899 Thomson, Jas., Butcher, Haddington
 1859 Turnbull, P., Little Pinkerton, Dunbar
 1899 Turnbull, Phipps O., The Brunt, Innerwick, East Lothian
 1879 TWEEDDALE, The Marquis of, K.T., Yester, Haddington
 1899 Wallace, Forbes, Redcoll, Longniddry
 1881 Wallace, John, Hailes, Haddington
 1888 Watt, Miss Adelaide, of Spott, Dunbar
 1902 Watt, David, jun., Caerlaverock, Tranent
 1899 Watt, James Wm., New Mains, Drem
 1898 Weddell, John, Snawdon, Gifford
 1847† WEMYSS and MARSH, The Earl of, Gosford, Longniddry
 1895 Wilson, David, Agricultural Engineer, East Linton
 1888 Wilson, Peter, Rhodes, North Berwick
 1899 Wilson, Robert, Sheriffside, Gifford
 1902 Wood, James, Faussett Hill, Gullane
 1893 Wyllie, Robert, Haugh, North Berwick
 1899 Wyllie, Wm. R., Tranent Mains, Tranent
 1877 Young, D. S., Bonnington, North Berwick
 1887 Young, James B., Elphinstone Tower, Tranent
 1869 Yule, Edward, Balgone, North Berwick

LINLITHGOW.

- 1899 Alexander, Thomas, Nethermuir, Bathgate
 1874 Allan, J., Viewforth, Bo'ness
 1898 Allan, Robert, Polkemmet, Whitburn—
Free Life Member
 1902 Allan, Robert, Viewforth, Bo'ness
 1895 Allison, David, Duddingston, South Queensferry
 1906 Arkley, Robt., Kingsfield, Linlithgow
 1908 Armour, Harry, Niddry Mains, Winchburgh
 1888 Bartholomew, John, Duntarvie, Winchburgh
 1906 Bartie, Thomas, Dundas Castle, South Queensferry
 1906 Beaumont, John, Mannelhaugh, Linlithgow
 1899 Borthwick, James, V.S., Kirkliston
 1902 Brash, James, Hallyards, Kirkliston
 1906 Brock, Sydney, Overton, Kirkliston
 1905 Brown, Robert, Waukmlton, Linlithgow
 1875 Brownlee, James, East Whitburn Farm
 1899 Brownlie, James, Merchant, Fauldhouse
 1867 Burton, J. Tait, Scotstoun, South Queensferry
 1895 Cadell, Henry M., of Grange, Grange House, Bo'ness
 1900 Cadzow, James, Kilpant, Broxburn
 1899 Caesar, William, Solicitor, Bathgate

Admitted

- 1904 Campbell, Wm. Jas., Estates Office, Dalmeny Park, Edinburgh
 1900 Clark, John Stewart, of Dundas, Dreg-horn Castle, Colinton
 1904 Cochran, Arch., Trinlaymire, Linlithgow
 1882 Crawford, Alex., Bo'mains, Bo'ness
 1899 Dalziel, Alex., Stonyburn, Fauldhouse
 1881 Drysdale, And. L., The Leuchold, Dalmeny Park, Edinburgh
 1870 Dudgeon, Alex., Humber, Kirkliston
 1869 Dudgeon, George, Almondhill, Kirkliston
 1887 Dudgeon, Jn. C., Easter Dalmeny, Dalmeny
 1889 Ferner, Wm. C., Birkenshaw, Bathgate
 1902 Fleming, James, Haugh, Kirkliston
 1905 Fraser, Thos., Millrig Farm, Kirkliston
 1905 Frew, John, Sanitary Inspector, Bathgate
 1906 Galbraith, Alex., Upper Kinneil, Linlithgow
 1907 Gifford, Adam, West Briggs, Kirkliston
 1901 Gifford, Thomas, West Briggs, Kirkliston
 1869 Glendinning, Alex., New Mains, Kirkliston
 1902 Graham, George W., Wheatlands, Kirkliston
 1906 Hamilton, John, Springfield, Linlithgow
 1860 Hog, Thomas A., of Newliston, Kirkliston
 1887 Hope, Capt. Thos., of Bridge Castle, Westfield, Linlithgowshire
 1906 Howat, James, Burghmuir, Linlithgow
 1906 Johnstone, Jas., Windyknowe, Bathgate
 1884† LINLITHGOW, The Marquis of, K.T., Hopetoun House, South Queensferry
 1889 Macaulay, Jas. F., Kinneil Estate Office, Bo'ness
 1888 MacNab, John, Glenmavis, Bathgate
 1900 Marshall, Wm., Barbauchlaw, Armadale
 1879 Masson, Rev. Alex., The Manse, Kirkliston
 1906 Milne, James, Home Farm, Dundas, South Queensferry
 1877 Mitchell, George, Broxburn Park, Broxburn
 1859 Morrison, J., West Dalmeny, Dalmeny
 1807 Newlands, Alex., Implement Maker, Linlithgow
 1888 Nimmo, Thos., Kirklands, Winchburgh
 1899 Nisbet, Gavin, Inch, Bathgate
 1898 Paul, James, Walton, Linlithgow
 1896 Ralston, A. Agnew, Philipstoun House, Philipstoun
 1904 Robertson, Robert, Little Ochiltree, Uphall
 1868† ROSEBERRY, The Earl of, K.G., Dalmeny Park, Edinburgh
 1889 Rough, Robert L. (R. Rough & Sons), Broxburn
 1908 Sinclair, George, Home Farm, Dalmeny Park, Edinburgh
 1906 Smith, Robt., Westfield, Winchburgh
 1906 Somerville, Robert, Seafeld, Bathgate
 1864 Steuart, Captain R., of Westwood, West Calder
 1892 Thomson, Seton Murray, Preston House, Linlithgow
 1888 Tod, Wm., Pardovan, Philipstoun
 1907 Wilson, William, jun., Boghall, Linlithgow
 1905 Wolfe, George, Millburn, Bathgate

5.—ABERDEEN DISTRICT.

EMBRACING THE

COUNTIES OF ABERDEEN, BANFF, FORFAR (EASTERN DIVISION), AND KINCARDINE.

ABERDEEN.

Admitted
 1868*† ABERDEEN, The Earl of, K.T., Haddo House, Aberdeen
 1885 Abernethy, David W., Ferryhill Foundry, Aberdeen
 1875 Anslie, William, Pitfour Estates Office, Mintlaw Station
 1894 Aitchison, Walter, Coniccleuch, Huntly
 1876 Alexander, George, South Balnoon, Huntly
 1901 Alexander, George, Wrae, Turriff
 1901 Allan, James R., Ashgrove Engineering Works, Aberdeen
 1889 Allan, John, Aikenshill, Culterculen, Aberdeen
 1901 Allan, Richard S., Ashgrove Engineering Works, Aberdeen
 1897 Anderson, A. B., Lothian House, Turriff
 1894 Anderson, Geo., Nether Aucharnie, Forgue, Huntly
 1885 Anderson, George, West Fingask, Old Meldrum
 1902 Anderson, George Alexander, Comlisy, Forgue, Huntly
 1876 Anderson, John M., Den o' Howie, Mintlaw
 1881 Anderson, Robert, Wester Coull, Tarland
 1902 Anderson, Robert, Aucharnie, Forgue, Huntly
 1907 Anderson, Wm., Home Farm, Hopewell, Tarland
 1894 Anderson, William, Saphock, Old Meldrum
 1876 Anderson, William, Manse, Lynturk, Alford, Aberdeen
 1876 Anderson, William, Wardes, Kintore
 1906 Argo, James, Crammabog, Rothenorman
 1882 Argo, James, Denend, Udry, Aberdeen
 1902 Armstrong, John, Whitehills, Cairnie, Huntly
 1903 Arnott, John, The Square, Huntly
 1898 Ballingall, Robert Rennie, Crammonmogate, Lomnay
 1882 Barclay, J. W., 60 Dee Street, Aberdeen
 1900 Barclay-Harvey, Jas. Chas., of Kinord, Dinnet
 1902 Barrie, James, Home Farm, Balmedie, Aberdeen
 1884 Barron, Geo. F., Thomastown, Auchterless
 1903 Baxter, William, Banker, Old Meldrum
 1885 Bean, James, Mains of Dumbreck, Udry
 1882 Beaton, James, Arpen Bank, Turriff
 1907 Beattie, Alex., 154 Midstocket Road, Aberdeen
 1902 Beddie, Alex., Ardzil, Strichen
 1906 Beddie, James, Banks, Strichen

Admitted
 1906 Beddie, L. B., Saltoun Place, Fraserburgh
 1904 Bell, Andrew, Latterty, Turriff
 1902 Bell, John, Auction Mart, Fraserburgh
 1888 Bennet, L., 27 Wallfield Crescent, Aberdeen
 1894 Bennet, Wm., Little Forgue, Forgue
 1901 Berry, Peter, Guise, Whitehouse, Aberdeenshire
 1894 Black, Wm., Kinarnie, Dunecht, Aberdeen
 1908 Booth, James, of Downiehill, Peterhead
 1893 Booth, Matthew, Darrahill, Foveran
 1884 Bothwell, Wm., Barryhill, Bridge of Don, Aberdeen
 1895 Brand, Robert, Ardiffery, Cruden, Ellon
 1895 Brown, Alexander G., Whitehill House, Fraserburgh
 1902 Brown, James, Braco, Strichen
 1899 Brown, James, Crosstone, Ellon
 1884 Brown, John, Craigie Cottage, Hardgate, Aberdeen
 1894 Brown, Robert, Maryville, Stocket, Aberdeen
 1902 Brown, Robt. J., Overhill, Belhalvie
 1868 Bruce, George, Heathfield, Inverurie
 1876 Bruce, James, Collithue, Gairly
 1876 Bruce, Peter, Myrston, Inch, Aberdeen
 1901 Bruce, Robert, Heatherwick, Inverurie
 1894 BURNETT, Sir Thomas, of Leys, Bart., Crathes Castle, Aberdeen
 1875 Burr, Alexander, Tulloford, Old Meldrum
 1900 Calder, Andrew, Cairnton, Lumphanan
 1901 Callander, William, Jericho, Inch, Aberdeenshire
 1901 Campbell, George, Harthill, Whitehouse, Aberdeenshire
 1876 Campbell, Silvester, Kinellar, Aberdeen
 1895 Cantlay, John, Ashallow, Cruden
 1900 Cantlay, William G., Glasgoego, Kinellar, Aberdeen
 1894 Cardno, Andrew P., Bogenlea, Monquhatter, Turriff
 1894 CATEGART, Sir Reginald A. M., Bart., Cluny Castle, Aberdeen
 1907 Catto, James A., Northern Agricultural Co., Ltd., Aberdeen
 1898 Chalmers, James, Auchrynie, Strichen
 1894 Chalmers, John Love, Wester Cardno, Fraserburgh
 1864 Chalmers, Wm., Summerhill, New Machar, Aberdeen
 1880 Chaplin, G. Robertson, Crimmonmogate Estates Office, Lomnay
 1899 Chapman, Archibald, of Slackadale, Turriff
 1894 Chapman, Wm., Woodhead, Aberdour, Fraserburgh

Admitted

1873 Charles, John, Town and County Bank
(Limited), Inverurie
1894 Charles, Wm., Gammons, Rothie-
norman
1894 Chessor, James, Craigiebanks, Fraser-
burgh
1902 Cheyne, Alex., Inchgreen, New Deer
1869 CLARK, Sir John F., of Tillypronie, Bart.,
Tarland
1873 Clarke, William, Hopewell, Tarland
1903 Cobban, James, Estate Office, Haddo
House, Aberdeen
1903 Cocker, John, Hill of Petty, Fyvie
1899 Cocker, William, 130 Union Street,
Aberdeen
1886 Collie, Wm., Priestswells, Inch
1871 Cook, Charles, Carden House, Aber-
deen
1901 Cook, James M., Waterside of Forbes,
Alford, N.B.
1894 Cook, Thomas Nicol, Waterside, New-
burgh, Aberdeen
1894 Cooper, John A., Dunnydeer, Inch
1876 Copland, Alexander, 78 Dee Street, Aber-
deen
1891 Copland, Robert, Milton, Ardlie, Elton
1894 Couper, J. C. Ogston, of Craigiebuckler,
Aberdeen
1902 Cowie, James, Harems, Monquhitter,
Turriff
1887 Crabb, Dd., New Aberdour, Fraser-
burgh
1902 Craig, Alex., 53 Schoolhill, Aberdeen
1878 Cran, George, Old Morlich, Inverkindie
1902 Cran, William, Gerrie, Huntly
1902 Crombie, Alex., Woodend, New Machar
1902 Cruickshank, Alex., Bon-Accord Hotel,
Market Street, Aberdeen
1902 Cruickshank, George Leslie, Fyvie
1876 Cruickshank, J., Ladysford, Fraserburgh
1906 Cruickshank, John W., Logienewton,
Rothienorman
1894 Cruickshank, Robert, Olaimires, Tur-
riff
1886 Darling, D. C., 2 Hosedale Avenue, Aber-
deen
1895 Davidson, Adam, Boghead of Denlugs,
Turriff
1896 Davidson, Capt. D. F., of Dess, Aber-
deenshire
1894 Davidson, James, of Holmwood, Aber-
deen
1894 Davidson, James, Newton, Cairnie,
Huntly
1906 Davidson, William, Burnside House,
Turriff
1902 Davidson, William, Road Surveyor, Elton
1905 Davie, W. A., M.A., B.Sc., Marischal
College, Aberdeen
1894 Dawson, Geo., The Manor Farm, Memaie,
Fraserburgh
1886 Dawson, W. F. G., North of Scotland
Bank, Inch
1896 Diack, James, Pittodrie, Pitcairle
1900 Douglas, John R., District Road Sur-
veyor, Turriff
1884 Duff, G. A., of Hatton, Turriff
1894 Duff, James Murray, 814 Great Western
Road, Aberdeen
1858 Duguid-M'Combie, P., of Easter Skene,
Aberdeen
1894 Dunbar, A. Duff, V.S., 20 Belmont St.,
Aberdeen
1902 Dunbar, John C. F., 8 Golden Square,
Aberdeen
1886 Duncan, Alexander, 602 Holburn Street,
Aberdeen
1903 Duncan, James, Urieside, Inverurie
1877 Duncan, John, Fortrie, King Edward

Admitted

1901 Duncan, John William, 477 King Street,
Aberdeen
1877 Duncan, Patrick, Balchers, King Edward
1906 Duncan, Robt., Salesman, King Street,
Aberdeen
1894 Durno, James, Easter Town, Old Mel-
drum
1879 Durno, James, Jackston, Rothienor-
man
1894 Durno, James, Westertown, Warthill
1885 Durno, Leslie, Mains of Glack, Old Mel-
drum
1891 Durward, Robert, Bielack, Coldstone,
Dinnet
1868 Dunthie, William, Banker, Tarves
1894 Edmond, John, of Kingswell, Advocate,
16 Bridge Street, Aberdeen
1902 Ellis, James A., Mains, Cairnconlie,
Cushnie, Alford
1902 Ellis, William D., Kinlune, Towie,
Glenkindie
1901 Elmslie, William, Crookmore, Alford,
N.B.
1900 Esslemont, George B., King's Acre,
Kingsgate, Aberdeen
1902 Farquhar, Charles, Skelman, Strichen
1895 Farquhar, James, Old Echt, Aberdeen
1906 Farquharson, Major James, of Cor-
rachree, Tarland
1865 Farquharson, John, 37 Westburn Road,
Aberdeen
1901 Farquharson, W. S., of Whitehouse,
Aberdeen
1872 Ferguson, Lieut.-Col. George A., of Pit-
four, Mintlaw
1893 Ferguson, James, of Kimmundie, Mint-
law (10 Wemyss Place, Edin.)
1868 Ferguson, Thomas, 7 Westfield Terrace,
Aberdeen
1894 Fiddes, Alex. Harvey, Meikle Haddo,
Foveran
1902 Finch, Outhbert W., Wellhouse, Alford,
N.B.
1904 Florence, Alexander, Knowley, Rayne,
Wartle
1872 FORBES, Right Hon. Lord, Castle Forbes,
Keig
1901 Forbes, Harry, Greystone, Tullynessle,
Alford, N.B.
1906 Forbes, Ivan Courtney, Brux Lodge,
Forbes, Alford, N.B.
1893 Forbes, J. C. Ogilvie, of Boynallie,
Fraserburgh
1874 Forbes, James, Tombreck, Glenbuckie
1902 Forbes, John Walter, of Corse, Lum-
phanan
1885 Forbes, William, Ruthven, Dinnet
1903 Forbes, William, Muirton of Barra,
Old Meldrum
1907 Forbes, Capt. The Hon. W. R. D.,
Byth House, Turriff
1900 Forrest, James, Whitesones, New Deer
1885 Fowlie, James, Brucehill, New Deer
1872 France, C. S., 7 Belmont Place, Aber-
deen
1885 Fraser, George, Hill of Skillmaffilly,
New Deer
1903 Fraser, Thomas, Terneystrepe, Turriff
1874 Garden, Robert, Mains of Tolquhon,
Tarves
1891 Gammell, Sydney J., Countesswells
House, Bieldside, Aberdeen
1894 Garland, Thomas, jun., Ardlie, Elton
1882 Garvie, R. G., Bon-Accord Lane, Aber-
deen
1903 Gellie, James, Gorraichie, King Edward
1902 Gilbert, Francis, Norham, Corse, Coull,
Lumphanan
1902 Glen, William, Clerkhill, Peterhead

Admitted

- 1904 Godsmann, David M., Mains of Fedderate, Brucklay
 1876 Gordon, A. M., of Newton, Inch—
Honorary Secretary of the Society
 1903 Gordon, Alex. Theodore, yr. of Newton, Inch
 1894 Gordon, Charles T., of Cairness, 13 Learmonth Gardens, Edinburgh
 1907 Gordon, Major-General C. G., Culdram, Gartly
 1876 Gordon, Henry, of Manar, Inverurie
 1886 Gordon, Henry G. Fellowes, of Knockespock, Olst
 1905 Gordon, Reginald Hugh Lyall of Abergeldie (16 Belmont Park, Lee, Kent)
 1876 Gordon, William, Anchallater, Braemar
 1894 Gordon, Wm. Fowles, Broomhills, Pit-sligo
 1889 GRANT, Sir Arthur, of Monymusk, Bart.
 1876 Grant, John, Banker, Methlick
 1895 Grant, P. A. H., of Drummuor, Rhynie
 1904 Grant, Robert, Pitchele, Monymusk
 1894 Grant, William, Faichill, Gartly
 1903 Grassick, W. H., Daviot Branch Asylum, Pitcaple
 1908 Gray, Alex. (J. & W. Henderson), Aberdeen
 1902 Gray, John, Ardlaw Mains, Fraserburgh
 1894 Gray, William, Balgove, Old Meldrum
 1894 Gray, William, Kellyford, Old Meldrum
 1894 Gray, Wm., Mains of Sheddocksley, Old Skene Road, Aberdeen
 1902 Grigor, James, Invercauld Arms Hotel, Braemar
 1903 Greig, Dr C., Fyvie
 1892 Greg, R. B., Marischal College, Aberdeen—*Free Life Member*
 1876 Hall, Alex. H., 8 Braemar Place, Aberdeen
 1897 Harper, Robert J., Wallinside, Inch
 1894 Harvey, Alex., Hunter, Fiddesbeg, Foveran, Aberdeenshire
 1885 Hay, Alexander (Ben. Reid & Co.), Guild Street, Aberdeen
 1902 Hay, John Rae, Little Ythsie, Tarves
 1900 Hendrick, James, B.Sc., F.I.C., Marischal College, Aberdeen—*Chemist to the Society*
 1902 Hendry, A. M., Affleck, Huntly
 1905 Hendry, George, County Buildings, Aberdeen
 1893 Hendry, Peter, Hillockhead, Huntly
 1901 Hendry, William C., 154 Union Street, Aberdeen
 1903 Henry, James, Kinaldie, Logie Coldstone, Dinnet
 1906 Hill, F. Godfrey, Little Haddo, Newburgh, Aberdeen
 1901 Howie, George, M.R.C.V.S., Alford, N.B.
 1892 Huggan, John A., 35 Market St., Aberdeen
 1884 Hunter, Charles, Upper Mills of Drum, Crathes
 1903 Hunter, Stephen, Northern Agricultural Co., Aberdeen
 1872 HUNTLY, The Marquis of, Aboyne Castle, Aboyne
 1884 Hutcheon, Alex., Nether Ordley, Anchorless, Turriff
 1899 Hutcheon, George, Sken House, Turriff
 1905 Hutcheon, John, yst., Ordley, Anchorless, Turriff
 1887 Hutcheon, John, of Upperton, Gask House, Turriff
 1890 Innes, Lt.-Colonel Francis Newel, R.N., R.A., yr. of Learney, Torphins
 1848 Innes, Col. Thomas, of Learney, Aberdeen

Admitted

- 1901 Ironside, George, Lethenty, Tullynessle, N.B.
 1905 Irvine, A. F., of Drum, Drumoak
 1876 Jaffray, James, 10 Margaret Street,
 1898 Johnston, Alex., V.S., Gordonstown, Rothlenorman
 1894 Johnston, John, Prioryhill, Peterculter
 1894 Keith, Alexander, Kinnermit, Turriff
 1894 Keith, Alex., Spreader Hill, Lommay
 1901 Keith, M. J., Aberdour House, New Aberdour
 1902 Kemp, Charles, Auchincrieve, Rothiemay
 1907 Kemp, William, Aldie, Port Erroll, Cruden
 1876 Kilgour, Robert, Ardlin, Hillon
 1876 KINROSA, Earl of, Keith Hall, Inverurie
 1885 Law, John, Lochend, Old Meldrum
 1876 Ledingham, A., Balmoon Cottage, Forgue, Huntly
 1889 Ledingham, J. K., North Plaidy, Turriff—*Free Life Member*
 1896 Leith, Capt. Alex., of Glenkindie, Aberdeenshire
 1890 LEITH, of Fyvie, Lord, Fyvie Castle, Fyvie
 1889 Leith, Major Thomas, Petmathen, Oyne
 1900 Leith-Hay, Chas. E. N., of Leith Hall, Kennethmont
 1885 Leslie, David, Lochhills, New Machar
 1905 Leslie, R. W. H. Crawford, of Rothienorman
 1884 Leys, James, Asloun, Alford
 1892 Littlejohn, Geo., Wellhouse, Alford, N.B.
 1876 Littlejohn, Wm., 112 Clifton Road, Aberdeen
 1905 Lobban, Wm., Loanhead, Drumblade, Huntly
 1887 Lovie, Alex., Nether Boyndlie, Fraserburgh
 1906 Lumsden, E. F., Balmedie, Aberdeen
 1869 Lumsden, Henry, of Pitcaple, Pitcaple
 1877 Lumsden, H. G., of Anchinoidir, Aberdeen
 1902 Lumsden, Hugh P., The Clova Home Farm, Lumsden
 1894 Lyon, Alex., 278 George Street, Aberdeen
 1903 Lyon, William, Haughton Arms Hotel, Alford, N.B.
 1894 Macdonald, Jas., Bridgend, Mossat, Kildrummy, Aberdeen
 1903 Macdonald, L., Fife Arms Hotel, Braemar
 1902 Macdonald, Rannald R., Cluny Estates Office, Aberdeen
 1902 M'Donald, Wm. Yeats, of Aquharney, Hatton
 1902 M'Farlane, Alex., V.S., Inch, Aberdeenshire
 1903 M'Hardy, Jas. R., Brucktor, Inverurie
 1902 Machray, John, Drimmes, Pitcaple
 1883 Mackenzie, Wm., 60 Hamilton Place, Aberdeen
 1899 Mackintosh, James, Estates Office, Clova, Lumsden
 1894 M'Laggan, Jas., Bank Agent, Torphins
 1887 M'Lean, Neil, of Breda, Alford, N.B.
 1902 M'Leod, Alex., Upper Cook, Fishrie, Turriff
 1902 M'Pherson, Jas. S., M.A., Schoolhouse, Ythan Wells, Inch
 1883 M'Robbie, Alex., Sunnyside, Aberdeen
 1904 M'Robert, A. T., Aberdeen Lume Co., Aberdeen
 1887 Maitland, Harry Reid, Little Methlick, Methlick—*Free Life Member*
 1894 Maitland, Robert Cruickshank, Balhalgady, Inverurie

Admitted

- 1902 Martland, William, Lume Co., Aberdeen
 1902 Martland, Wm., Pittulise, Auchterles
 Turriff
 1876 Marr, John, Upper Mill, Taives
 1894 Marshall, Provost Alexander, Townhead,
 Kintore
 1894 Mearns, Daniel, Quayside, Aberdeen
 1875 Means, Rev Duncan G., of Dishblau,
 Aberdeenshire
 1892 Mennie, A M'G., Brawlandknowes,
 Gartly
 1875 Merson, James, Craigwille, Huntly
 1893 Merson, John, Millhill, Gartly
 1895 Michie, John, Balmoral, Ballater
 1876 Middleton, Alex., Belmont, Aberdeen
 1906 Miller, J P Sandilands, Chemical
 Works, Aberdeen
 1895 Milligan, D M M., 245 Union Street,
 Aberdeen
 1900 Milne, Alex., Pickenstone, Fyvie
 1904 Milne, Colonel George, Logie Elphinstone
 1894 Milne, James, Pittendrum, Pitsligo,
 Fraserburgh
 1908 Milne, John, Contractor, Braemar
 1867 Milne, John, Inverurie—*Free Life Mem-
 ber*, 1873
 1887 Milne, Robt., Coise of Kinnour, Huntly
 1868 Mitchell, William A., Auchnagathel,
 Keig
 1886 Mon, Alexander, Rowan Bank, Wood-
 side, Aberdeen
 1908 Moor, George, Foiglen Mains Turriff
 1902 Mour Byres, George, Tooley, Whitehouse,
 Aberdeenshire
 1898 Morrison, Alex., 25 Market Street, Aber-
 deen
 1894 Morrison, Alex Smith, Stonebriggs,
 Pitsligo, Fraserburgh
 1885 Morrison, Andrew, Upper Cotburn,
 Turriff
 1902 Morrison, James, 62 Cadden Place,
 Aberdeen
 1901 Mortimer, William, Old Keig, White
 house, Aberdeenshire
 1894 Mowat, John, Craigmand, by New
 Pitsligo
 1894 Murdoch, John, Belnaboth Glenbucklet,
 Aberdeenshire
 1902 Murison, Wm., County Clerk, Aberdeen
 1902 Murray, James G., Bredless, Turriff
 1894 Muth, James G., Drumgar, Cults,
 Aberdeen
 1872 Nares, A F, Parkhill, Aberdeen
 1902 Nicol, Randall Jas., yr of Ballogie,
 Aboyne
 1869 Nicol, W E., of Ballogie, Aboyne
 1882 Norrie, Wm., Cairnhill, Monquhitter,
 Turriff—*Free Life Member*
 1894 Ogg, Charles, Baltimore, Glenbucklet
 1882 Ogston, Alex M., of Aidoe, Aberdeen
 1894 Park, Wm., Woodhead, Curries, Lon-
 may, Fraserburgh
 1901 Paterson, James, Newbigging, White
 house, Aberdeen
 1894 Paterson, James, Provost Jameson's
 Quay, Aberdeen
 1902 Penny, Joseph, Ardlay Villa, Longside
 1901 Petric, Charles, Westhall Cottage, Oyne
 1894 Philip, John, Bellevue, Dyce, Aberdeen
 1894 Philip, William, Boyndes, Inverurie
 1895 Fine, Arthur, Cartlehaugh, Mintlaw
 Station
 1895 Pirie, A C, Dunecht, Aberdeenshire
 1902 Pirie, George, Bank Agent, Ellon
 1859 Pittendigh, A., Mains of Park, Lonmay
 1894 Porter, A., Gillahill, Countesswells,
 Aberdeen
 1902 Proctor, William, Invercauld Arms
 Hotel, Ballater

Admitted

- 1905 Proft, W J, M A, B Sc., Marischal
 College, Aberdeen
 1882 Rae, John, Corn Merchant, Ellon
 1882 Rae, Wm., Advocate, Aberdeen
 1894 Ramsay, William, jun.
 1908 Reid, Alfred H., Hillhead, Ellon, Aber-
 deen
 1902 Reid, Chas., Gateside, Shachan, Ban-
 chory
 1891 Reid, David, Crofts of Glenmuick,
 Ballater
 1902 Reid, James, Hayfield, Peterhead
 1877 Reid, Dr James, Templeton, Mossat
 1884 Reid, John, Balquharn, Alford, N B
 1894 Reid, John Low, Cromlybank, Ellon,
 Aberdeenshire
 1902 Reid, Robt., Belhelvie, Old Meldrum
 1885 Reid, Wm., 8 Hadden Street, Aberdeen
 1902 Ritchie, John Neish Schoolhill, Turriff
 1902 Ritchie, William, Balcarra, Old Mel-
 drum
 1901 Robertson, Alexander, Kinbog, Fraser-
 burgh
 1876 Robertson, Duncan, Sheriff of Aberdeen
 1901 Robertson, John, Kirkland, Forgue,
 Huntly
 1855 Robson, Alex (W Smith & Sons), Aber-
 deen
 1858 Ross, H., care of the Secretary, Mutual
 Improvement Association, Tairland
 1898 Ross, R R., Balmoral Buildings, 67 71
 Green, Aberdeen
 1871 Ross, Wm., Annesley, Torphins
 1885 Runciman, James, Castleton, King Ed-
 ward
 1885 Runciman, John, Auchmull, King Ed-
 ward
 1894 Russell, Major General F S, C M G., of
 Aden, M P, Mintlaw
 1866 Saltoun, Right Hon Lord, Philorth
 House, Fraserburgh
 1901 Sangster, John, Manager, Aberdeen
 Commercial Co., Aberdeen
 1894 Scott, Jas., Bruzie, New Maud, Aber-
 deenshire
 1906 Scott, John, Bruntstane, Huntly
 1894 Scott, John, Factor and Banker, New
 Pitsligo
 1881 Scott, Ronald, 58 Fountainhall Road,
 Aberdeen
 1885 Sellar, R H N., Implement Maker,
 Huntly
 1894 Sharp, Jas Smith, Burryhullock, Prem-
 nay
 1894 Shearer, Eric Jas., Maybank Works,
 Turriff
 1896 Shepherd, William, Bellestrad, Logie-
 Coldstone, Dinnet
 1902 Sherriffs, Kenneth, jun., Grain Merchant,
 Aberdeen
 1902 Sim, Alex., Home Farm, Murton, Bel-
 helvie
 1900 Sim, George F., Lochend, Andoe, Aber-
 deen
 1898 Sim, James, Ness Bank, West Cults,
 Aberdeen—*Free Life Member*
 1902 Sim, William, Jessfield Countess
 wells
 1902 Summers, Francis, Whiteside, Tully-
 nessle, Alford, N B
 1906 Simpson, Alex., Broadland, Cairnie,
 Huntly
 1894 Simpson, George, Fernhill, Aberdeen
 1902 Simpson, James, Drumdelgie, Cairnie,
 Huntly
 1885 Simpson, John, Implement Maker,
 Peterhead
 1895 Sivewright Adam, M R C V S, Tairland
 1889 Skirving, Robert, of Oobardy, Huntly
 1858 Sleigh, John, Strichen Mains, Strichen

Admitted

- 1896 Sleigh, John P., St John's Wells, Fyvie
 1902 Smith, Andrew, Invercauld Estate Office, Ballater
 1902 Smith, Charles, Inchcorrie, Rothiemay
 1895 Smith, C. G., The Mains, Haddo House, Aberdeen
 1894 Smith, Duncan M., 27 Argyll Place, Aberdeen
 1894 Smith, George, Kilreen, 23 King's Gate, Aberdeen
 1906 Smith, George, of Pittodrie, Pitcaple
 1885 Smith, James, Burnshangie, Strichen
 1894 Smith, Robert, Boggieshalloch, Turriff
 1895 Smith, William, 59 Rosemount Viaduct, Aberdeen
 1894 Smith, W. J. Woodman, 20 King Street, Aberdeen
 1903 Smythe, George H., Balcarres Hotel, Echt
 1902 Spark, Wm. A., Glenbucket, Bridge o Bucket
 1902 Stephen, Robert, Largue, Forgue, Huntly
 1896 Stewart, Alexander G., Ballaterach, Dinnert
 1889 Stewart, Sir David, of Banchory, Banchory House, Aberdeen
 1902 Stewart, James G., Aldivalloch, Huntly
 1885 Still, Geo., Strathray, Kinnellar, Blackburn, Aberdeen
 1894 Stoddart, Geo., Aryburn, Dyce
 1893 Stodart, George, 52 Gladstone Place, Aberdeen
 1883 Strachan, Alexander, Wester Fowls, Alford
 1878 Strachan, Charles, Tillyorn, Tarland
 1894 Strachan, Patrick, Eastown, Tarland
 1894 Strachan, William, Upper Muirdean, Turriff
 1885 Stuart, E. R. Burnett, of Dens Crichie, Mintlaw
 1894 Stuart, William, Earlsfield, Kennethmont
 1876 Tait, John, Crichie, Inverurie
 1896 Taylor, Alex., Kildrummy, Mossat
 1902 Thom, Jas. C., Quithel, Crathes, Aberdeen
 1896 Thomson, Peter, Kirkhill House, Turriff
 1875 Thomson, Wm., Banker, Tarland
 1902 Thurburn, Edward A., of Mayen, Rothiemay
 1898 Turner, John, Kinharraichie, Ellon
 1873 Udney, J. H. F., of Udney and Dudwick, Aberdeen
 1876 Urquhart, Colonel F. P., of Craigston, Turriff
 1884 Walker, David, Coullie, Udney
 1902 Walker, George, jun., Tillygreig, Udney
 1895 Walker, Roderick, Maiklesfells, Rothiemorman
 1905 Watson, George, Old Craig, Meikle Wartie, Aberdeenshire
 1894 Watson, Wm., Middlemuir, Aberdour, Strichen
 1889 Watt, John, Newton of Mounie, Daviot, Old Meldrum
 1894 Webster, James C., Millmoss, Turriff, N.B.
 1893 Webster, William, Towie Barclay, Auchterless, Aberdeen
 1873 Wilken, George, Congeast, Inverurie
 1902 Williamson, David D., Auldtown of Carnousie, Forglen, Turriff
 1902 Wilson, Rev. Alex., M.A., The Manse, Ythan Wells, Insch
 1895 Wilson, Alex. S., 128½ Union Street, Aberdeen
 1894 Wilson, C. F., Old Ford Road, Aberdeen
 1894 Wilson, Geo., Badentyre, Turriff

Admitted

- 1865 Wilson, John, Castle Park, Huntly
 1904 Wilson, R., Newton, Methlick
 1895 Wilson, Robt. M., M.D., Tarty, Ellon
 1885 Wilson, Wm., Coynachie, Garthly
 1902 Wisely, William, 81 Virginia Street, Aberdeen
 1901 Young, George, Greenhall, Insch, Aberdeenshire
 1903 Young, John M'Lauchlan, F.R.C.V.S., F.R.S.E., Marischal College, Aberdeen

BANFF.

- 1902 Alexander, E. W., Newton of Olunie, Marnoch
 1893 Allan, George M., of Montbletton, Banff
 1900 Anderson, William, M.R.C.V.S., Keith
 1893 Barclay, Geo., Strocharie, King Edward, Banff
 1893 Beaton, L., The Farm, Cullen House, Cullen
 1899 Bisset, Colin, Home Farm, West Elchies, Aberlour
 1893 Bisset, James, of Paddocklaw, Kilnshade, Macduff
 1874 Bruce, G., Tochnieal, Cullen
 1894 Cameron, Geo., Bogbain, Keith, N.B.
 1875 Campbell, James, L.L.D., Cullen House, Cullen
 1894 Craigie, William, Pennan Farm, Banff
 1883 Cran, John, Butcher, Keith
 1902 Cruickshank, Captain A., Afforsk, Gamrie, Banff
 1898 Cruickshank, William, North Sandlaw, Alvah, Banff
 1889 Cumming, J. F., Cardow, Craigellachie
 1902 Davidson, Andrew, Mains of Balmand, King Edward
 1893 Donald, George, of Ladyhill, Grange, Keith
 1880 Duff, Thomas Gordon, of Drummur, Keith
 1868 Duncan, R., Auchenhaidie Mains, Banff
 1904 Edgar, Alex., Hotel, Craigellachie
 1899 Farquharson, R. G., Bogarrow, Glenlivet
 1884 Fife, The Duke of, K.T., Duff House, Banff
 1908 Findlay, Robert, Itlaw, Alvah, Banff
 1902 Forbes, Alexander, Rettie, Boyndie, Banff
 1893 Fortune, John, Broom, Portsoy
 1894 Fowler, David, Ladysbridge Asylum, Banff
 1903 Garden, Francis Alexander, of Troup, Banff
 1895 Gill, George, of Bloodymire, Macduff
 1902 Gordon, James, Craignetherty, Marnoch
 1886 Graham, William, Brewer, Banff
 1893 Grant, George, Glenfarclas, Ballindalloch
 1876 Grant, G. S., Anchorachan, Glenlivet, Ballindalloch
 1903 Grant, James, 25 Castle Street, Banff
 1900 Grant, James, Arradoul, Buckie
 1902 Grant, James, Glenconglass, Tomintoul, Ballindalloch
 1902 Grant, John A., Pitglassie, Duftown
 1902 Grant, Dr Robt. R. W., Ruthven, Kirk-michael, Ballindalloch
 1874 Green, Robert, Ruthrie, Aberlour
 899 Greig, John, South Sandlaw, Alvah, Banff
 1894 Gunn, Alexander J., Kinhilllock, Cullen
 902 Hendry, Charles, Auldtown of Netherdale, Aberchirder
 907 Henry, James, Bae, Cornhill, Banffshire
 900 Hutcheon, John, Dounepaik, Banff

Admitted

- 1876 Inkson, Thomas F., Kinnermony, Craigelachie
 1881 Innes, Sir J., of Balveny and Edingight, Bart., Keith
 1903 Kynoch, John, W. Isla Bank, Keith
 1902 Landale, Napier, Aberlour, Banffshire
 1896 Law, Charles E., Holl Farm, Keith
 1902 Leask, D. B., Banker, Aberchirder
 1894 Livingstone, William, Newton of Mountblairy, Banff
 1885 Longmore, Leith E., Baldavie, Banff
 1897 Lumsden, General Sir Peter, G.C.B., of Buchrumb, Dufftown
 1902 MacConachie, F. G., Ardoch, Deskford, Cullen
 1888 M'Donald, Alexander (M'Donald Bros.), Portsoy
 1900 Macdonald, John, Marypark, Ballindalloch
 1896 Macduff, John, Maryhill, Auchlunkart, Keith
 1901 M'Gilchrist, James, Home Farm, Ballindalloch
 1891 MacIntosh, William, Fife Estates Office, Banff
 1905 Mackay, George, Mains of Tannachy, Port Gordon
 1902 Macpherson, James, Auchmillie, Portsoy
 1876 Macpherson, J., Mulben, Keith
 1858 Maitland, William, Muirfold, Grange, Keith
 1898 Marsden, Wm. James, V.S., Castle St., Banff
 1902 Massie, James, Milltack, King Edward
 1880 Menzies, W. G. Stewart, Aikenway, Craigellachie
 1874 Miller, John, Seafeld, Cullen
 1905 Milne, Lewis, Mains of Findochty, Buckie
 1898 Moggach, Joseph, Mains of Towiebeg, Botriphnie, Keith
 1901 Moir, James, Drummuir, Keith
 1898 Morison, Alex. O., Gavenwood, Banff
 1885 Morison, James O., of Culvie, Aberchirder
 1907 Morrison, A., Loanhead, Cornhill, R.S.O., Banff
 1902 Morrison, James, Hillhead of Eden, Banff
 1907 Morton, John, jun., Fisherton, Aberlour-on-Spey
 1898 Murray, Alex., Old Manse, Boyndie,
 1873 Ogilvie, A. M., Tillynaught, Portsoy
 1873 Paterson, Wm., The Elms, Turriff
 1869 Ramsay Alex., *Banffshire Journal* Office, Banff
 1902 Reid, Alex., Marypark Bridge, Ballindalloch
 1905 RICHMOND and GORDON, The Duke of, K.G., Gordon Castle, Fochabers
 1895 Robertson, William, Grain Merchant, Banff
 1902 Runciman, Frank S., Auchmill, King Edward
 1898 SCAFFIELD, Countess-Dowager of, Cullen House, Cullen
 1896 Sharp, James D., Seafeld Estates Office, Cullen
 1897 Shearer, Joseph, Craigellachie
 1902 Sim, John, Aberlour Mains, Aberlour
 1888 Simpson, Alexander, Wardend, Banff
 1902 Simpson, Alexander, Woodside, Portnockie
 1876 Simpson, J. (Auchinachie & Simpson), Keith
 1894 Simpson, Thos. A., Colleonard, Banff
 1891 Simpson, Wm., Douglasbrae Manure Works, Keith

Admitted

- 1894 Skene, John, Monibletton Lodge, Banff
 1903 Smith, Alexander, Wester Bogs, Enzie
 1902 Smith, Alexander, North Burreldales, Alvah, Banff
 1902 Smith, George, Hungryhills, Alvah, Banff
 1898 Smith, George, Ordens, Banff
 1901 Smith, George, Greenlaw, Alvah, Banff
 1901 Smith, Gordon, Cragganmore, Ballindalloch
 1901 Strachan, George, Montecoffer Mains, Banff
 1894 Taylor, William L., Union Bank, Cullen
 1894 Thomson, William, Tynet Mills, Port-Gordon
 1883 Turner, Robert, Cairnton of Boyndie, Portsoy
 1881 Walker, George, Milton Distillery, Keith
 1898 Watson, William, Banff Foundry, Banff
 1902 Wilson, George A., Haughs, Keith
 1885 Wilson, James, Inchgower, Buckie
 1902 Wilson, Robert, Bowlebank, King Edward

FORFAR

(EASTERN DIVISION).

- 1899 Adam, John, Bolshan, Arbroath
 1893 Adamson, William S., Careston Castle, Brechin
 1902 Adamson, Mrs. Nora Jane, Careston Castle, Brechin
 1893 Allison, Archibald, Dubton, Brechin
 1884 Anderson, D., Woodhill, Carnoustie
 1883 Anderson, Jas., Bridgend, Brechin
 1890 Arnot, David, Mains of Edzell, Brechin
 1896 Arnot, William, Fithie, Brechin
 1876 Bean, George, West Balloch, Montrose
 1898 Bell, David Scott, Pert, Laurencekirk
 1890 Bell, James, Gillicorn, Arbroath
 1902 Blair, William, West Mathers, St Cyrus, Montrose
 1905 Bowie, Robt. Colville (Mains of Kelly), Brookfield, Carnoustie
 1896 Cameron, John, Westside, Brechin
 1901 Campbell, Andrew, Farmers' Mart, Ltd., Brechin
 1894 Campbell, Dr Archibald, Keenie, Edzell
 1902 Campbell, Arch., Glenefock, Lochlee, Forfarshire
 1840 Campbell, Right Hon. J. A., of Stracathro, P.C., Brechin
 1887 Campbell, Jas. Morton Peto, yr. of Stracathro, Brechin
 1869 Carnegie, H. L., of Kinblethmont, Arbroath
 1894 Carnegie, James, Arrat, Brechin
 1887 Chalmers, P., Aldbar Castle, Brechin
 1890 Collier, John W., Hatton, Carnoustie
 1879 Colquhoun, Dug., Mains of Panmure, Carnoustie
 1898 Conpar, Andrew, jun., West Kintrockat, Brechin
 1855 Croll, John, Craignach, Broughty Ferry
 1891 Cruikshank, A. W., of Langley Park, 18 Amherst Road, Ealing, London, W.
 1876 Dickson, Patrick, Sunnyside House, Montrose
 1875 Duncan, A. R., Newmans Walls, Montrose
 1898 Duncan, James Balfour, Brechin
 1884 Fairweather, John, Chapletown, Brechin
 1892 Falconer, James, Milton of Conon, Carmyllie, Arbroath
 1894 Farquhar, Alexander, Careston, Brechin
 1894 Ferguson, William, Ironmonger, Brechin

Admitted

- 1885 Finlayson, James, Balcathie, Arbroath
 1890 Fleming, Alexander, Charleaton, Montrose
 1801 Fleming, James, Friock Mains, Friockheim
 1901 Fletcher, Donald, Kinnaird, Brechin
 1906 Francis, George A., West Seaton, Arbroath
 1903 Fraser, Major J. W., Forebank House, Brechin
 1895 Grant, Colin, Danfield, Arbroath
 1901 Grant, George Roger, Auchnacree, Brechin
 1902 Gray, Alex., Agricultural Co., Brechin
 1876 Harper, F. V., Dunlappie, Edzell
 1903 Henderson, Geo. Thomson, Templewood, Brechin
 1894 Henderson, James, Kincraig, Brechin
 1905 Henderson, Robert C., Kincraig, Brechin
 1902 Howie, Thomas, Beechwood, Arbroath
 1880 Hume, David, Barrellwell, Brechin
 1896 Hynd, James, jun., Hodgeston, Inverkeilor, Arbroath
 1906 Ireland, David, Easter Balmuir, Arbroath
 1894 Ireland, Thomas, Brewer, Brechin
 1894 Jarron, James Alexander, Arbukie, Inverkeilor, Arbroath
 1896 Johnstone, James D., Orange Lane, Montrose—*Free Life Member*
 1894 Johnstone, John, Balseabreck, Brechin
 1906 Kirkland, Thomas B., The Holles, Broughty Ferry
 1890 Kydd, James, Scryne, Carnoustie
 1902 Low, William, of Balmakewan, Marykirk, Montrose
 1895 Lyall, Alexander, of Gardyne Castle, Montrose
 1854 Lyall, David, of Gallery, Montrose
 1881 M'Corquodale, D. A., Banker, Carnoustie
 1869 M'Culloch, R. C., Myerton Villa, Carnoustie
 1904 Macdonald, Reginald L., Windmill House, Arbroath
 1904 Macdonald, W. K., Town Clerk, Arbroath
 1894 M'Intosh, Thomas, Knowhead, Brechin
 1897 M'Kinnon, James, Barnhill, Broughty Ferry
 1902 M'Laren, James, Balgillo, Forfar
 1905 M'Laren, John, jun., Balgillo, Forfar
 1901 M'Laren, Laurence, M.R.C.V.S., Brechin
 1905 M'Nab, John B., Keithock, Brechin
 1887 MacNab, William, Keithock, Brechin
 1900 M'Niven, Duncan, Willanyards, Brechin
 1893 Middleton, George, Parkconon, Colliston, Arbroath
 1889 Miller, James, Balgillo, Broughty Ferry
 1891 Milne, Andrew C., Grange, Inverkeilor, Arbroath
 1902 Milne, David, Auction Mart, Montrose
 1894 Milne, George Gardyne, Montrose
 1902 Milne, John, Farmer Mart, Brechin
 1905 Milne, J. A., of Chapelton of Menmuir, Inchbras, Brechin
 1902 Milne, Wm. M., North Mains, Turin, Forfar
 1879 Mitchell, James, Merchant, Montrose
 1868 Morgan, D., Douglasleigh, Carnoustie
 1905 Morgan, J. W., Grange of Conon, Arbroath
 1905 Moyes, W. C., Cairndrum, Brechin
 1894 Myles, John Blythe, of Balglassie, Brechin
 1884 Nicoll, Wm., Hilton of Fearn, Brechin
 1898 Nicoll, William, jun., Mains of Gallery, Montrose
 1905 Officer, John, Windyedge, Brechin
 1890 Ogilvie, James Swan, Brackenbras, Broughty Ferry

Admitted

- 1890 Onchterlony, Lt-Col T. H., The Guynd, Arbroath
 1891 Pattullo, John, Hatton Mill, Friockheim
 1900 Pattullo, J. H., Pitskelly, Carnoustie
 1884 Petrie, David D., 12 Ann Street, Arbroath
 1900 Reid, Wm. J., Fordhouse of Dun, Montrose
 1882 Risk, James, Pittendreich, Brechin
 1882 Robertson, James, Panmure, Carnoustie
 1895 Robertson, John, Panmure Estates Office, Carnoustie
 1884 Rodger, Geo., Waukmlis, Inverkeilor, Arbroath
 1882 Rodger, Robt., Mains of Dun, Montrose
 1906 Salmond, Charles S., Legaston, Arbroath
 1895 Samson, Jas., Balmilly, Montrose
 1905 Scott, Alex., Huntlyhill, Brechin
 1866 Scott, D. G. C., Maisondieu, Brechin
 1883 Scott, Jas. Addison, Newton, of Arbirlot, Arbroath
 1902 Semple, James, Old Downie, Carnoustie
 1902 Semple, John L., Hanghs of Kinnaird, Brechin
 1904 Shiell, David Guthrie, Oatlea, Brechin
 1885 Shiell, John, Solicitor, Brechin
 1895 Sim, John, Brae of Pert, Brechin
 1896 Smart, Arthur G., Dalbog, Edzell
 1889 Smart, J. B., Woodside House, Carnoustie
 1906 Smith, Alex., Findowrie, Brechin
 1884 Soutar, D., Fowis, Montrose
 1900 Soutar, Jn. W., jun., Leachland, Brechin
 1895 Soutresk, The Earl of, Kinnaird Castle, Brechin
 1900 Spalding, William, of Balcannel, Brechin
 1880 Stansfeld, Capt John, Dunmald, Montrose
 1902 Stephen, Edward F., Holenslea, Broughty Ferry
 1905 Steven, William, Craigmill, Carnoustie
 1904 Stewart, Donald, Chellwood, Monitheth
 1900 Stewart, Gordon, East Mains, Keithock, Brechin
 1894 Swan, William C., Inverpeffer, Carnoustie
 1890 Taylor, Robt., Pitliver, Carlogie House, Carnoustie
 1891 Thom, James H., Westerton of Stracathro, Brechin
 1906 Tindal, Robt. P. S., East Mains of Rosvie, Montrose.
 1896 Todd, James, Maison-Dieu, Brechin
 1894 Watson, William, Boddin, Montrose
 1896 Wilson, James A., Arnhall, Edrell
 1874 Wood, Chris, Kintrockat House, Brechin
 1899 Wood, Robert, Admiral Street, Carnoustie
 1884 Young, George, Panlathie, Carnoustie

KINCARDINE.

- 1876 Adam, William, Bush, Banchoory-Ternan
 1901 Alexander, James, Bents, Laurencekirk
 1902 Alexander, Robt., of Redmyre, Fordoun
 1906 Anderson, David, Lourston, Nigg
 1894 Annandale, A. B., Bank Agent, Stonehaven
 1881 Baird, Sir Alex., of Urie, Bart, Stonehaven
 1894 Baird, Henry Robt., of Durris, Aberdeen
 1892 Barrie, James, Butcher, Stonehaven
 1902 Barron, Robt., Mains of Mondynes, Fordoun
 1902 Blackhall, T. H., Elsieck House, Newtonhill, Stonehaven

Admitted

- 1884 Braid, Thomas, Durris, Aberdeen
 1893 Brown, George T., East Cairnbeg, Fordoun
 1873 Brown, W., Pitnamoon, Laurencekirk
 1899 Bruce, C. J., Auchenzeech, Fordoun
 1894 Calder, Jas., Midtown of Barras, Stonehaven
 1894 Carr, Wm., East Mains of Barras, Stonehaven
 1888 CLINTON, Lord, Fettercairn House, Fettercairn
 1884 Cooper, John, Ley, Banchory-Ternan
 1893 Cox, Charles T., Invery, Banchory, Kincardineshire
 1899 Crichton, C. M., Kintore Estates Office, Laurencekirk
 1864 Davidson, J., Harestone, Banchory
 1882 Dewar, Alexander, Factor, Fasque, Fettercairn
 1876 Dickson, Patrick, Laurencekirk
 1896 Duff, Robert W., of Fetteresso, Stonehaven
 1902 Duguid, John, Darnford, Durris
 1906 Falconer, Wm. G., Cairnton, Fordoun
 1902 Findlay, James, Craighead, Portlethen
 1905 Forbes, Alex., Fetteresso Estates Office, Stonehaven
 1907 Fortescue, Miss T. I., Kingcausie, Aberdeen
 1902 Fraser, George, Kilnhill, Laurencekirk
 1876 GLADSTONE, Sir J. R., of Fasque, Bart., Fettercairn
 1869 Grant, Capt. Frederick G. Forsyth, of Ecclesgreig, Montrose
 1873 Greig, James Booth, Laurencekirk
 1884 Greig, William, Ashentilly, Durris, Aberdeen
 1884 Hart, John, Cowie House, Stonehaven
 1878 Hay, J. T., of Blackhall Castle, Banchory
 1902 Heggie, J. G., The Burn Estate Office, Inch of Arnhall, Edzell
 1902 Henderson, Alex., Burnside, Newhall, Muchalls
 1902 Henry, William, Hatton, Marykirk
 1896 Hird, Samuel, Sauchenshaw, Muchalls, Stonehaven
 1884 Hunter, George, Kirktown of Banchory, Banchory-Ternan
 1888 Innes, Rev. W. D., of Cowie, Stonehaven
 1903 Ireland, Edwin, Ramsay Arms Hotel, Fettercairn
 1902 King, Robert, Powburn, Fordoun
 1873 Kinnear, Arthur W., Stonehaven
 1876 Kinross, J., Coldstream, Laurencekirk
 1901 Macdonald, J., Fettercairn, Laurencekirk

Admitted

- 1896 McInroy, Col. Charles, C.B., of The Bun, Edzell
 1900 Milne, Alex., Urie Estates Office, Stonehaven
 1902 Milne, George, Mains of Barras, Kinniff, Stonehaven
 1894 Milne, Jas., Balnagubs, Netherley, Muchalls
 1894 Milne, James, jun., Easter Cairnhill, Fetteresso, Muchalls
 1905 Milne, Robert, Inch of Arnhall, Edzell
 1894 Murray, A. B., Auction Mart, Stonehaven
 1902 Murray, Thomas A., West Mondynes, Fordoun
 1900 Nicolson, Arthur B., of Glenbervie, Fordoun
 1855 Paul, William, Stranathro Cottage, Muchalls
 1885 Philip, Forbes, Road Surveyor, Ellon
 1878 Porteous, D. S., of Lauriston, Montrose
 1906 Preddy, Chas. A., Threipland, Drumlithie, Fordoun
 1876 Reid, George, Pittdelphin, Strachan, Banchory
 1900 Reid, James, Nether Tulloch, Laurencekirk
 1889 ROBERTSON OF FORTVIVOR, Right Hon. Lord, Muchalls Castle, Stonehaven
 1885 Ross, Alexander, Mains of Newhall, Fetteresso, Muchalls
 1899 Scott, John, Albyn Cottage, Laurencekirk
 1882 Shand, T. L. R., of Fawsyde, Bervie
 1894 Shaw, Charles, Maidenfold, Maryculter, Aberdeen
 1868 Sinclair, D., of North Loirston, Aberdeen
 1876 Skeen, George, Burnside, Drumlithie
 1873 Smith, James, Pittengardner, Fordoun
 1898 Stewart, George, Haulkerton Mains, Laurencekirk
 1857 Taylor, Robert, Drumfrenny, Banchory
 1868 Thomson, James, Balbegno, Fettercairn
 1863† Walker, G. J., Mains, Portlethen, Aberdeen
 1893 Walker, John Wilson, Hillside House, Portlethen, Aberdeen
 1892 Walker, Robt. W., Portlethen, Aberdeen
 1902 Walker, W. J. B., Nethermill House, Fettercairn
 1896 Young, John, Easter Tilbouries, Maryculter

6.—DUMFRIES DISTRICT.

EMBRACING THE

COUNTIES OF DUMFRIES, KIRKCUDBRIGHT, AND WIGTOWN.

DUMFRIES.

Admitted

- 1895 Adamson, Robert, W.S., Irish Street, Dumfries
 1879 Aitken, John M., Norwood, Lockerbie—
Free Life Member
 1873 Anderson, James, Stockbridge, Ecclefechan
 1873 Anderson, John, Hillside, Moffat
 1898 Anderson, Jonathan, Eaglesfield, Ecclefechan
 1895 Anderson, Walter, Breckonside, Moffat
 1904 Armstrong, James, Shaw, of Tundergarth, Lockerbie
 1904 Annandale, Wm. Edwin, Hoppersigg, Langholm
 1906 Armstrong, Walter John, Park, Annan
 1907 Armstrong, W., Green, Annan
 1887 Austin, James J. M., of Dalmakerran, Thornhill
 1888 Baird, Alexander, Hoddometown, Ecclefechan
 1871 Baird, John, Solicitor, Lockerbie
 1896 Barber, William, Tererran, Moniaive
 1903 Barbour, John, Bengall, Lockerbie
 1906 Bartholomew, James, Kinnelhead, Beattock
 1896 Beattie, John, Baurch, Bigg, S.O., Carlisle
 1893 Beattie, Lewis, Mossknowe, Canonbie
 1903 Beattie, Thos., Dumfelling, Langholm
 1907 Beattie, Thomas, Torduff, Annan
 1883 Bell, Alexander, Stobahill, Lockerbie
 1886 Bell, George, Crossbankhead, Ecclefechan
 1903 Bell, James, Brydekirk Mains, Annan
 1901 Bell, John, Dornock House, Annan
 1903 Bell, John, Torbeckhill, Ecclefechan
 1906 Bell, John Mackintosh, of Roundstonefoot, Moffat (15 Belgrave Place, Edinburgh)
 1901 Bell, Robt. Nixon, Newton, Kirkpatrick-Fleming, Ecclefechan
 1904 BEANSEY, Sir Henry Hanson, Bart. (of Barton Bendish, Stoke Ferry), Burncrook, Moffat
 1878 Berwick, John, Burn, Thornhill
 1895 Blackley, John, Marshhill, Dumfries
 1878 Borland, John, Auchencairn, Closeburn, Thornhill
 1903 Borthwick, A. Hay, Billholm, Langholm
 1898 Brand, David, Hangingshaw, Lockerbie
 1895 Broatch, Geo., Justices, Annan
 1890 Brodie, W. A. G., Crichton Asylum, Dumfries
 1895 Brook, E. J., of Hoddom, Hoddom Castle, Ecclefechan
 1902 Brown, David, Stepford, Auldgrith
 1886 Brown, James, Burnside, Holywood, Dumfries

Admitted

- 1903 Brown, James, Shillahill, Lockerbie
 1902 Brown, John, Threecrofts, Dumfries
 1899 Brown, Joseph, Holestane, Thornhill
 1886 Brown, Stephen, Boreland, Lockerbie
 1877 Brown, T. M., Closeburn Castle, Thornhill
 1895 Burnie, William, Penlaw, Lockerbie
 1904 Butter, Peter, Atholl Bank, Noblehill, Dumfries
 1908 Byers, James, Gimmenbie Mains, Lockerbie
 1895 Callander, Gavin, Palmerston Iron Works, Dumfries
 1906 Cameron, James, Lincuden Mains, Dumfries
 1895 Campbell, John, Knockenjig, Sanquhar
 1903 Carlyle, Thos. R., Waterbeck, Ecclefechan
 1893 Carlyle, William Lee, Templehill, Ecclefechan
 1886 Carmont, James, British Linen Company Bank, Dumfries
 1896 Carruthers, F. J., of Dormont, Lockerbie
 1895 Carruthers, William R., Stenrieshill, Wamphray, Beattock
 1896 Caven, James, Snade, Auldgrith
 1906 Chalmers, John, Charlesfield, Annan
 1903 Chapman, Andrew, Dinwoodie Lodge, Lockerbie
 1876 Charlton, John, Corn Merchant, Dumfries
 1903 Charlton, John, Loreburn Park, Dumfries
 1903 Clark, A. M., Hoddom Estates Office, Ecclefechan
 1895 Clark, James, of Nunland, Dumfries
 1895 Common, John, Cross Dykes, Lockerbie
 1873 Cormack, John F., Solicitor, Lockerbie
 1903 Cowan, Ronald L., Hallguards, Ecclefechan
 1897 Crabbe, Major, Duncow, Dumfries
 1890 Craig, Edward J., Waterhead, Dryfe, Lockerbie
 1897 Craig, James, Burnfoot, Sanquhar
 1895 Craig, John, Burnfoot, Sanquhar
 1881 Crawford, Jas., Flossend, Gretna
 1892 Crawford, Peter, Dargavel, Dumfries
 1903 Crichton, D. W., Limekilns Farm, Annan
 1870 Critchley, J. A., Stapleton Tower, Annan
 1903 Crosbie, John, Chapelhill, Caerlaverock, Dumfries
 1899 Cross, M. M., Annan
 1895 Dalgleish, Robert, Auchengruth, Sanquhar
 1903 Dalgleish, Robert, Ulzieis, Sanquhar
 1878 Dalziel, Adam, Chanlockfoot, Penpont
 1869 Dalziel, James, Auctioneer, Dumfries
 1903 Dickie, David, Tower, Sanquhar

Admitted

- 1895 Dickie, Joseph, South Cowshaw, Tinwald, Lochmaben
 1862 Dickson, John H., Dabton, Thornhill
 1878 Dobie, David, Banker, Lockerbie
 1900 Donaldson, Andrew, Posting Master, Thornhill
 1903 Donaldson, Thomas, Sarkshields, Ecclefechan
 1868 Douglas, A. H. Johnstone, Comlongon Castle, Ruthwell, R.S.O.
 1882 Douglas, J., Breonside, Thornhill
 1907 Duff, Thomas, 80 High Street, Annan
 1898 Duncan, John Bryce, Newlands, Dumfries
 1891 Dunlop, Colin, Lockerbie House, Lockerbie
 1906 Dunlop, George, Stapleton, Annan
 1903 Easton, John, Brownfield, Dumfries
 1895 Edgar, James, Castlehill, Lockerbie
 1895 Erskine, Robert, Glenholm, Lockerbie
 1906 Erskine-Scott, Henry, Dunnabie, Ecclefechan
 1895 Ewart, John, Gotterbie, Lockerbie
 1877 Farish, Samuel T., Annan
 1877 Farish, William K., Amisfield Tower, Dumfries
 1895 Ferguson, J. H., Crochmore, Dumfries
 1878 Fleming, Gavin, Crowdieknowe, Ecclefechan
 1904 Fleming, John, Crowdieknowe, Ecclefechan
 1884 Fletcher, D. M., Burnhead House, Lockerbie
 1895 French, John, Glenmanna, Thornhill
 1895 Fulton, Arch., Tinwald House, Torthorwald, Dumfries
 1872 Galbraith, W. W., Shinnelhead, Thornhill, Dumfriesshire
 1895 Gaas, Thomas, Hillhead, Kirkpatrick-Fleming, Ecclefechan
 1903 Gibson, Adam Kennedy, Springkell, Ecclefechan
 1904 Gibson, John, Bruntshields, Lochmaben
 1895 Gibson, Richard, Bogge, Penpont
 1904 Gibson, Samuel, Summerfield, Dumfries
 1904 Gibson, Thomas, Auchencrief, Dumfries
 1873 Gillespie, Rev. John, LL.D., Mouswald Manse, Ruthwell, R.S.O.
 1884 Gillespie, William, Alton, Moffat
 1908 Gladstone, Stewart, of Capenoch, Thornhill
 1895 Glover, Joseph J., 17 Castle Street, Dumfries
 1895 Gordon, H. S., Solicitor, Dumfries
 1895 Gourlay, Francis N. M., Twomerkland, Moniaive
 1898 Graham, Christopher, Skipmyre, Lochmaben
 1905 Graham, David C., Swordwell, Annan
 1884 Graham, Major-General John Gordon, of Mossknowe, Ecclefechan
 1903 Graham, Thomas, Marchfield, Dumfries
 1895 Graham, William, Harlawhill, Canonbie
 1895 Graham, William, Glenelg, Lockerbie
 1859 Gray, Alex., Tanlawhill, Langholm
 1880 GRAYSON, Sir A. D., of Lagg, Bart., Dumfries
 1895 Grierson, John, Town Clerk, Dumfries
 1872 Grieve, Arch., Albierigg, Canonbie
 1897 Grieve, R. W., Kirkland, Kirkconnel, Sanquhar
 1896 Grossart, Robert F., M.R.C.V.S., Milton, Beattock
 1896 Hatterslay, Neil S., Dalswinton, Dumfries
 1897 Henderson, George H., Kelloside, Sanquhar
 1895 Henderson, Jas., Cotland, Dumfries
 1895 Henderson, Jas. K., Buttknowe, Kirkconnel, Sanquhar

Admitted

- 1887 Henderson, John, Solicitor, Dumfries
 1906 Hill, Basil H., Archbank, Moffat
 1895 Holmes, Robert K., Broomrigg, Holywood, Dumfries
 1895 Hoson, Ninian Wilson, Kirtleton, Ecclefechan
 1878 Houston, John, 2 Dunbar Terrace, Dumfries
 1895 Hunter, David, Shearington, Caerlaverock, Dumfries
 1907 Hunter, Robt., Woodside, Kirkbean, Dumfries
 1895 Hyslop, Peter, Stapleton, Annan
 1895 Irvine, Wm., Job and Postmaster, Dumfries
 1895 Irving, David A., Cowburn, Lockerbie
 1885 Irving, D. J. Bell, Bankside, Lockerbie
 1904 Irving, Francis, Penneranghs, Ecclefechan
 1885 Irving, H. C., of Burnfoot, Ecclefechan
 1895 Irving, John Bell, of Millbank, Lockerbie
 1895 Irving, Thomas, Pearsbyhall, Lockerbie
 1895 Jackson, James W., Lochhouse, Beattock
 1905 Jackson, Stanley, Craiglearn, Moniaive
 1895 Jackson, Thos., Blindhillbush, Lockerbie
 1895 Jardine, David Jardine, of Jardine Hall, Lockerbie
 1895 Jardine, Robert, Corsua, Lockerbie
 1893 JARDINE, Sir Robert William Buchanan, Bart. of Castlemilk, Lockerbie
 1896 JARDINE, Sir William, of Applegarth, Bart., Castle Street, Dumfries
 1890 Jeffrey, John J., Blackaddie, Sanquhar — *Free Life Member*
 1903 Johnson-Ferguson, A., yr. of Springkell, Ecclefechan
 1903 Johnson-Ferguson, Sir J. E., of Springkell, Bart., Ecclefechan
 1895 Johnston, Archibald F. Campbell, Carnsalloch, Dumfries
 1877 Johnston, James, Helenbank, Noblehill, Dumfries
 1870 Johnstone, J. J. Hope, of Annandale, Raehills, Lockerbie
 1881 Johnstone, Michael, Alton, Moffat
 1895 Joynson, Francis, New Park, Annan
 1906 Kennedy, Jas. D., Casthill, Dumfries
 1903 Kennedy, William, Luce Mains, Ecclefechan
 1864 Kerr, Abram, Old Graitney, Greta
 1878 Kerr, Archibald, Townhead, Ruthwell, R.S.O.
 1903 Kerr, William, Old Graitney, Greta
 1892 Kirkpatrick, Andrew, Longbridgemuir, Ruthwell
 1898 Kirkpatrick, James, Newbie, Annan
 1895 Kirkpatrick, Thomas, Bynesholm, Penpont, Dumfriesshire
 1903 Laurie, C. V. E., yr. of Maxwellton, Moniaive
 1895 Lawrie, James, Auction Mart, Dumfries
 1884 Lawrie, John P., Shieldhill, Lochmaben
 1878 Lennox, David, Merchant, Dumfries
 1895 Lennox, James, Merchant, Dumfries
 1905 Lindsay, James, Brieryhill, Lockerbie
 1873 Lindsay, James, Whitecastles, Lockerbie
 1895 Lindsay, James, V.S., Whitesands, Dumfries
 1895 Lindsay, William, West Roucan, Dumfries
 1878 Little, James Church, Burnfoot, Langholm
 1888 Little, Murray, Solicitor, Annan
 1895 Little, William, Gladenholm, Amisfield, R.S.O.

Admitted

- 1895 Lorrimer, William, Raesclough, Moffat
 1895 Lyon, J Stewart, of Kirkmichael, Dumfries
 1887 M Call, Alexander, Castlemains, Lochmaben
 1870 M'Call, James, of Cartloch, Moniaive
 1899 M'Call, Thomas, Johnstone Place, Lockerbie
 1895 M'Call, William, Broomfield, Glencarn, Moniaive
 1907 M'Clure, James, Clydesdale Bank, Lockerbie
 1878 M'Clure, Wm, Banker, Lockerbie
 1887 Macdonald, Alexander, Grain Merchant, Lockerbie
 1907 M'Donald, James, High Street, Annan
 1895 Macdonald, J C B, W S, Dumfries
 1893 Macdonald, Major William Bell, of Bammerscales, Lockerbie
 1878 Macfarlan, George, Closeburn Mains, Thornhill
 1900 MacGregor Peter, Factor, Springkell, Ecclefechan
 1896 M'Intosh, A J, V S Dumfries
 1908 M'Intosh, Duncan, West Mains, Dumfries
 1895 M'Intosh, John S, Drummur, Ruthwell, R S O
 1887 M'Jannet, F J, Gtlesack, Thornhill
 1888 M'Jarrow, David, Solicitor, Lockerbie
 1894 M'Jarrow, Jas Ewart, Fairfield, Lockerbie
 1886 Mackenzie, John A, Solicitor, Lockerbie
 1905 Mackenzie, Thos, Mansfield, Thornhill
 1895 Mackie, Andrew, Atkinsons Bank, Gretna
 1895 Mackie, George, Dornock Mains, Annan
 1900 Mackie, John, Dalriddle, Dumfries
 1895 Mackie, William, Wamphray Gate, Beattock
 1878 MacMaster, James, Newtonrigg, Dumfries
 1895 M'Mullan, John J, Glencrosh, Moniaive
 1895 M'Mullan, Robert, Woodlee, Moniaive
 1895 M'Mullan, Thomas, Glencrosh, Moniaive
 1895 M'Murray, Alex, O'atherinefield, Dumfries
 1895 Macrae, D M, Stenhouse, Thornhill
 1840 Malcolm, W E, of Burnfoot, Lanchholm
 1890 Martin, J C, of Netherwood, Dumfries
 1880 Martin, William, Dardarroch, Dumfries
 —Free Life Member
 1903 Mathews, Robert, The Linns Toithorwald, Dumfries
 1889 Maxwell, Charles H, Dalruscan, Dumfries
 1895 Maxwell, M'Kill, Coshogie, Thornhill
 1900 Maxwell, Wellwood Hyslop, Steilston House, Dumfries
 1895 Maxwell, William, Chemical Manufacturer, Bellevue, Dumfries
 1895 Miller, William J, Beguier, Annan
 1895 Milligan, George F, Burroughs, Thornhill
 1870 Milligan, John, Auldgrith, Dumfries
 1895 Milligan, John, Craigm Park Durrisdeer, Dumfries
 1904 Milligan Samuel, M A, B Sc, Hayfield, Thornhill
 1899 Milne, R W, Sibbaldie, Lockerbie
 1886 Milne, Thomas, Grain Merchant, Lockerbie
 1870 Minto, John D, Elmbank, Dumfries
 1895 Moffat, Francis, Craigbeck, Moffat
 1898 Moffat, James, Gtleside Sanquhar
 1862 Moffat, Thomas, Sunnyhill, Dumfries
 1883 Moffat, William, Garwald, Lanchholm
 1895 Moffat, Wm Kennedy, of Shillingland, Kilquhanity, Castle Douglas

Admitted

- 1908 Morton, Hugh, Dalmakethar, Lockerbie
 1878 Murray, Allan, Castlemilk Mill, Lockerbie
 1895 Murray, John, Glenghside, Lockerbie
 1895 Murray, William, British Linen Co Bank, Sanquhar
 1900 Murray, William, of Murraythwaite, Ecclefechan
 1879 Murray, W G G, Hillside, Lockerbie
 1895 Osborne, James, Dinning, Closeburn, Dumfries
 1890 Osborne, Robert, Morton Mains, Thornhill
 1904 Oswald, Major Julian, Kindar Lodge New Abbey, Dumfries
 1870 Paterson, D J, Watch Hall, Annan
 1905 Paterson James S, Quhytewoolien, Lockerbie
 1895 Paterson, John, Fingland, Wamphray, Moffat
 1885 Paterson, John S, Craigdarroch, Sanquhar
 1903 Paterson, Robert, Holms, Beattock
 1899 Paterson, Robert, Longbedholm, Moffat
 1900 Paterson, Robert Jardine, of Balgray, Lockerbie
 1885 Paterson, Wm, E Craigdarroch, Sanquhar
 1894 Pearson, A G, of Luce, Annan
 1903 Pickering, R Y, of Conneath, Dumfries
 1884 Primrose, John, Solicitor, Dumfries
 1895 Primrose, Robert, Kirkbog, Thornhill
 1898 Ramsay, Rev Dr Ogilvy, Closeburn Manse, Thornhill
 1895 Rankin, John S, Waulkmill, Thornhill
 1886 Rennie, D W, Castle Street, Dumfries
 1899 Reid, Charles W, King's Arms Hotel, Lockerbie
 1895 Reid, James S, Westwood Dumfries
 1895 Richardson, James, Hartbush, Tinnwald
 1884 Richardson, John, Braehead, Heck, Lockerbie
 1878 Richardson, William, Milnfield, Annan
 1884 Richardson, Wm, Hardbush, Ainsfield, R S O
 1895 Richardson, William, Mansfield House, Moffat
 1865 Ritchie, William, Hope Lodge, Moffat
 1895 Robinson, R, Steam Mills, Annan
 1898 Robson, John, County Buildings, Dumfries
 1934 Roddick, Frank, Traillnow, Ecclefechan
 1903 Rogerson, James, Kinklands, Lockerbie
 1903 Rogerson, John K, Eldin, Moffat Road, Dumfries
 1895 Rogerson, Robert, Seedsman, Dumfries
 1903 Russell, George, National Bank of Scotland, Dumfries
 1895 Rutherford, Dr James, Crichton Royal Institution, Dumfries
 1895 Rutherford, John, M P, Summerhill, Annan
 1884 Sandilands, Robert, Corsebank, Sanquhar
 1900 Sandilands, Wm, Ballinnie, Moniaive
 1878 Scott, Robert A, Fairfield, Dumfries
 1898 Scott, William Black, Alison's Bank, Gretna, N B
 1903 Scrimgeour, James, Manholm, Hoddum, Ecclefechan
 1895 Sloan, William, Shawamur, Closeburn, Thornhill
 1895 Smith, Matthew, Townhead, Thornhill
 1870 Smith, Thomas, Twiglea, Lockerbie
 1878 Smith, Thomas K, Braes House, Ecclefechan

Admitted

- 1895 Steel, Arthur Jackson, of Kirkwood, Lockerbie
 1907 Steele, James, Foulisye, Annan
 1895 Steel, James, Pennyland, Dalswinton, Dumfries
 1886 Stobo, James, Halliday Hill, Auldirth
 1878 Struthers, Wm., Logan Mains, Canonbie
 1908 Symington, Arch., of Allanton, Auld-girth
 1886 Symons, John, Solicitor, Dumfries
 1903 Tayleur, Eric, Kirkconnel Lea, Dumfries
 1878 Thomson, Robert, Carlowrie, Annan Road, Dumfries
 1879 Tod, William, Halleaths Farm, Lochmaben
 1908 Tweedie, Major-General W., of Lettrick, Dumfries
 1908 Urquhart, James H., Eaglesfield, Ecclefechan
 1902 Urquhart, Joseph, Eaglesfield, Ecclefechan
 1904 Veitch, George Douglas, of Ellock, Sanquhar
 1893 Vetch, W. H., Park House, Ecclefechan
 1894 Vivers, William, Dornocktown, Annan
 1895 Walker, Captain Laurie, of Crawfordton, Thornhill
 1886 Wallace, James R. W., Auchembainzie, Thornhill
 1889 Wallace, John William, Ford, Thornhill
 1875 Wagh, John, Greenwood Hall, Moffat
 1907 Weir, James, Brick House, New Abbey Road, Dumfries
 1899 Welsh, Tom, Eriestane, Moffat
 1886 Whitelaw, James W., Solicitor, Dumfries
 1895 Wightman, James, South Mains, Sanquhar
 1896 Will, George, Crichton Royal Institution, Dumfries
 1895 Williamson, Ninian Alex., of Carfield, Kirkmahoe, Dumfries
 1903 Williamson, Thomas, Drumbute, Sanquhar
 1895 Wilson, Alexander, Stakeford, Dumfries
 1870 Wilson, James R., Banker, Sanquhar
 1900 Wilson, James, Tundergarth Mains, Lockerbie
 1878 Wilson, John, Tinwaldshaws, Tinwald, Dumfries
 1895 Wilson, John, Boghead, Dumfries
 1878 Wilson, P. M'C., Muirside, Holywood, Dumfries
 1877 Wright, Thos., Howgillside, Ecclefechan
 1903 Wyllie, James, Bankhead, Lochmaben
 1895 Wyllie, James, Grain Merchant, 3 Loreburn Park, Dumfries
 1864 Yorstoun, M. O., of Tinwald, Irvine House, Canonbie
 1895 Young, Homer, Redhills, Dumfries
 1904 Young, Robert, Hardgrave, Ruthwell, R.S.O.

KIRKCUDBRIGHT.

- 1889 Adamson, John, of Craigadam, Brooklands, Crookston, Dumfries
 1895 Allan, Robert, Howwell, Kirkcudbright
 1870 Anderson, Robert, Alleyford, Kirkgunzeon
 1904 Armstrong, Robert, Littleton, Gatehouse
 1889 Barbour, Wm., Cullpark, Castle-Douglas
 1884 Barrowman, John H., Corrahill, Kirkcudbright
 1886 Biggar, Wm., Chapelton, Dalbeattie
 1895 Blair, James Edward, Drumpark Mains, Dumfries
 1908 Bone, James, Lochvale, Castle-Douglas
 1908 Brown, J. H. Balfour, Goldieles, Dumfries

Admitted

- 1908 Brown, James, of Barlay, New Galloway (82 Moray Place, Edinburgh)
 1903 Brown, James, of Knockbrex, Kirkcudbright (Longfield, Heaton Mersey, Manchester)
 1870 Brown, Joseph, Hermitage, Dalbeattie
 1895 Brown, Robert, Blairshunnoch, Kirkgunzeon, R.S.O.
 1895 Brown, William, Balannan, Ringford, N.B.
 1908 Brown, William, of Netherlaw, Kirkcudbright
 1892 Caird, James A., of Cassencary, Creetown
 1895 Callander, Alex., Palmerston Saw Mills, Maxwelltown, Dumfries
 1895 Callander, Gavin, Palmerston Iron Works, Dumfries
 1895 Callander, Samuel, Clunie, Terregles, Dumfries
 1885 Campbell, Robert J., Guil, Castle-Douglas—*Free Life Member*
 1908 Campbell, Wm. George, High Borgue, Twynholm, Castle-Douglas
 1879 Cannon, James, Urioeh, Castle-Douglas—*Free Life Member*
 1877 Cannon, John, Rosebank, Dalbeattie
 1874 Chalmers, Arch., of Kipp, Dalbeattie
 1895 Clark, James, of Nunland, Dumfries
 1895 Clark, William, Culmain, Crocketford, Dumfries
 1890 Clift-M'Culloch, Edward A., Kirkcudbright, Gatehouse
 1903 Coats, W. A., of Dalskairth, Dumfries
 1903 Cochrane, Captain William, Torrorie, Preston Mill, Kirkbean, Dumfries
 1903 Cochrane, William, jun., Torrorie, Preston Mill, Kirkbean, Dumfries
 1896 Copland, Thomas, Seaside, Terregles, Dumfries
 1899 Corrie, Thomas, Southpark, Kirkcudbright
 1903 Craigie, John, Farmer, Creetown
 1894 Crawford, Hugh W. B., Chapmantown, Castle-Douglas
 1895 Crawford, William, Whiteside, Kirkgunzeon, R.S.O.
 1866 Cunningham, R. D. B., of Hensol, New Galloway Station
 1903 Cunningham, Henry, Whitecairn, Dalbeattie
 1889 Cunningham, John, Tarbreoch, Dalbeattie
 1879 Currie, John, Kirkeoch, Kirkcudbright
 1895 Douglas, John, Barabillie, Castle-Douglas
 1895 Douglas, Thomas, Lochdounan, Castle-Douglas
 1895 Douglas, William, Maryfield, Terregles, Dumfries
 1878 Douglas, Wm. D. R., of Orchardton, Castle-Douglas
 1903 Dudgeon, Cecil Randolph, Cargen, Dumfries
 1908 Dudgeon, Robt. Maxwell, 79th Cameron Highlanders, Cargen, Dumfries
 1877 Dudgeon, R. F., of Cargen, Dumfries
 1889 Duncan, James, East Glenarm, Crocketford, Dumfries
 1884 Dunlop, Captain H. L. Murray, of Gorseck, Dalbeattie
 1903 Fairhurst, Thomas, of Borness, Kirkcudbright (Kilhey Court, Worthington, near Wigan)
 1889 Fergusson, Robert W., of Kilquhanity, Dalbeattie
 1895 Fraser, Hugh, Arkland, Dalbeattie
 1859 Fraser, John, Maxwellfield, New Abbey, Dumfries
 1899 Frood, W. J., Mainsiddle Inn, Preston Mill, Dumfries

Admitted

- 1893 Galbraith, Charles R., Terregles, Dumfries
 1904 Gibson, John, Priestlands, Troqueer, Dumfries
 1860 Gibson, J. T., Carsethorn, Kirkcubright
 1882 Gillespie, Denholm, Park Hall, Maxwelltown, Dumfries
 1888 Gillespie, William, Solicitor, Castle-Douglas
 1886 Gilmour, W. P., Balmangan, Kirkcudbright
 1886 Gordon, Alexander J., Kirkcudbright
 1885 Gordon, Edward, Dunlop, Castle-Douglas
 1877 Gordon, James, Castle-Douglas
 1908 Gordon, Col. Wm., of Threave, Castle-Douglas
 1904 Graham, John, Kirkconnell, Ringford
 1895 Graham, Robert, Auchengassel, Twynholm
 1878 Gray, Adam, Ingleston of Borgue, Kirkcudbright
 1908 Hacking, J. H., Auchengibbert, Crocksford, Dalbeattie
 1896 Halliday, William, Halket Leaths, Castle-Douglas
 1903 Hannay, Colonel Wm. Rainsford, of Kirkdale, Creetown
 1876 Hayman, John, Queenshill, Ringford
 1878[†] Herries, Right Hon. Lord, Kinharvey, New Abbey, Dumfries
 1858 Herries, A. Y., of Spottes (16 Heriot Row, Edinburgh), Dalbeattie
 1895 Herries, William D. Y., jr. of Spottes, Dalbeattie
 1878 Hood, D. A., Balgreddan, Kirkcudbright
 1884 Hood, Wm., Chapelton, Borgue
 1886 Hope, John, Captain R.N., St Mary's Isle, Kirkcudbright
 1869 Hume, A., Auchendolly, Dalbeattie
 1880 Hutchison, Graham, of Balmaghie, Castle-Douglas
 1904 Hutchison, Jas. Laurie M'Kie, of Lauriston Hall, Castle-Douglas
 1870 Hyslop, Andrew, Auchencroch, Dalbeattie
 1886 Jamieson, John, Jameston House, Carsphairn
 1878 Kennedy, J. M., of Knocknalling, Dalry, Galloway
 1870 Kennedy, Wm., Marbrack, Carsphairn
 1890 Kerr, Jas., Mid-Kelton, Castle-Douglas — *Free Life Member*
 1860 Kerr, Thos., Kirkchrist, Kirkcudbright
 1897 Keswick, James J., of Mabie, Dumfries
 1878 Kirwan, L. M., Collin, Auchencairn
 1883 Laidlay, R. W., Barwhinnock, Twynholm
 1895 Lusk, Matthew C., Airieland, Castle-Douglas
 1906 M'Adam, James, Craigley, Castle-Douglas
 1870 M'Call, George, Cassalands House, Maxwelltown, Dumfries
 1878 M'Conachie, John, Carsewilloah, Creetown
 1878 M'Cormick, John, Lochankit, Corsock, Dalbeattie
 1895 M'Dowall, John, of Girdstingwood, Kirkcudbright
 1904 M'Kerrow, Chas. Samson, Boreland of Southwick, Dumfries
 1876 M'Kerrow, M. S., Boreland of Southwick, Dumfries
 1878 M'Kie, John, of Bargaly, Castle-Douglas
 1876 M'Larin, Dugald, Dalbeattie
 1896 M'Nae, Robt., V.S., Maxwelltown, Dumfries
 1895 M'Naught, Robert A., Dalry, Galloway
 1897 M'Queen, James, of Crofts, Dalbeattie

Admitted

- 1907 M'Turk, Alex., M.R.C.V.S., Barlae, Dalry, Galloway
 1899 M'Turk, John, Rockville, Castle-Douglas
 1878 M'Turk, W. A., Barlae, Dalry, Galloway
 1888 M'William, John, Carantyne Villa, Dalbeattie
 1877 Makland, David, of Dundrennan, Kirkcudbright
 1885 Marshall, Wm., Loch Fergus, Kirkcudbright
 1878 Maxwell, James, Screel, Castle-Douglas
 1906 Maxwell, James Todd, Screel, Castle-Douglas
 1902 Maxwell, Major J. A. C. Wedderburn, of Glenlair, Dalbeattie
 1878 Maxwell, W. J., Terregles Banks, Dumfries
 1908 Maxwell, W. J., jr. of Munches, Dalbeattie
 1879 Maxwell, Wellwood, of Kirkcannan, Dalbeattie
 1886 Maxwell, Sir W. F., of Cardoness, Bart., Gatehouse
 1878[†] Maxwell, W. J. H., of Munches, Dalbeattie
 1904 Miller, John Richard, Crochmore, Irongray, Dumfries
 1895 Miller, William, Powillimount, Kirkbean, Dumfries
 1908 Milligan, J. E., Solicitor, Dalbeattie
 1878 Mitchell, Andrew, Barcheskie, Kirkcudbright
 1878 Montgomery, And., of Netherhall, Castle-Douglas
 1907 Montgomery, Andrew Mitchell, Netherhall, Castle-Douglas
 1879 Montgomery, John, Compstonend, Twynholm
 1878 Montgomery, William, Banks, Kirkcudbright
 1898 Morton, David, Cally, Gatehouse
 1877 Muir, Wm., Craigville, Kirkcudbright
 1879 Murray, G. R., of Parton, Castle-Douglas
 1895 Neilson, John, of Mollance, Castle-Douglas
 1899 Neilson, W. Montgomerie, of Queenshill, Kirkcudbrightshire
 1890 Nicholson, William, Bombie, Kirkcudbright
 1878 Nivison, Stewart, Lairdlaugh, Dalbeattie
 1878 Ovens, Walter, Torr House, Castle-Douglas
 1903 Parker, Hugh, Boreland, Castle-Douglas
 1886 Paterson, William, Broomlands, Dumfries
 1902 Perman, Fred. Wm., of Drumstinchell, Southwick, Dumfries
 1899 Phillips, Charles Aldcroft, of Dildawn, Castle-Douglas
 1895 Phillips, James, Carse, Kirkcudbright
 1905 Picken, James, Milton, Kirkcudbright
 1903 Robb, Thomas, Sheep-dealer, Castle-Douglas
 1902 Saunders, A. W., Dromore, Kirkcudbright
 1895 Scott, Robert T., Drumhughry, Corsock, Dalbeattie
 1888 Shennan, John K., Balig, Kirkcudbright
 1888 Shennan, R., Balig, Kirkcudbright
 1908 Slater, Andrew, Hartburn, Kirkcudbright
 1908 Sloan, William, Larg Farm, Creetown
 1882 Smith, Jas., Standingstone, Twynholm, Castle-Douglas
 1877 Spalding, A. F. M., of Holm, New Galloway
 1895 Sproat, George G. B., Boreland, Gatehouse, N.B.

Admitted

- 1878 Sproat, W. T., Borgue House, Kirkcudbright
 1895 Starke, James Gibson Hamilton, Advocate, of Troqueer Holm, Dumfries
 1902 Stewart, Ronald, Barcaple, Ringford, Kirkcudbright
 1905 Syminton, David, Kirkcarsewell, Dundrennan, Kirkcudbright
 1869 Thomson, John, Bridge of Dee, Castle-Douglas
 1886 Timms, H. A., of Slogarie, New Galloway
 1878 Veitch, Andrew, Girthon Kirk, Gatehouse
 1895 Veitch, David Y., Low Crooch, Gatehouse, N.B.
 1907 Wallace, James, Chapelhill, Kirkcudbright
 1879 Wallace, J., Foundry, Castle-Douglas
 1886 Wallace, M. G., Terreglestown, Dumfries
 1879 Wallace, R., Foundry, Castle-Douglas
 1895 Wallat, William, Auction Mart, Castle-Douglas
 1903 Wilkinson, H. Bevis, Corsock Estate Office, Corsock, Dalbeattie
 1894 Wilkinson, John, The Grange, Kirkcudbright
 1879 Williamson, A., Meikle Spyland, Kirkcudbright
 1871 Williamson, Thos., Mansfield, Kirkcudbright
 1903 Witham, Lieut.-Col. J. Maxwell, C.M.G., Kirkconnell, New Abbey, Dumfries
 1903 Yerburch, R., Barwhillanty, Parton, R.S.O.
 1903 Young, John, Brockloch, Dalbeattie

WIGTOWN.

- 1893 Adair, John, Springbank, Stranraer
 1903 Adair, Percy J., Solicitor, Stranraer
 1898 Agnew, Sir Andrew Noel, of Lochnaw, Bart., M.P., Stranraer
 1903 Agnew, John Lockhart, Balwherrie, Leswalt
 1875 Agnew, William, Hillhead, Leswalt, Stranraer
 1893 Aitken, Alex., Solicitor, Church Street, Stranraer
 1906 Anderson, James, Inohparks, Stranraer
 1893 Anderson, John, Drummoral, Isle of Whithorn
 1878 Anderson, Robert, Balgreggan, Stranraer
 1894 Armitage, Arthur Calrow, of Kirrough-tree, Newton-Stewart
 1903 Barbour, John, Balgown, Ardwell, Stranraer
 1878 Barbour, Robert, Balgown, Ardwell, Stranraer
 1893 Bennoch, James, Stranraer
 1893 Bennoch, John, Solicitor, Stranraer
 1896 Black, John, British Linen Co. Bank, Wigtown
 1878 Black, Thomas, Craigenrosh, Stranraer
 1895 Brown, Hugh, Craighlaw Mains, Kirkcowan
 1895 Caldwell, Hugh, Culhorn Parks, Stranraer
 1903 Chalmers, Hugh, Chlenry, Castle-Kennedy
 1897 Chalmers, John, Freugh, Stoneykirk
 1893 Christison, James, Barglass, Kirkinner
 1903 Cochran, Andrew, High Ardwell, Kirkcolum
 1893 Cochran, George, North Cairn, Kirkcolum
 1877 Cochran, Robert, Caldons, Stoneykirk

Admitted

- 1893 Cochran, Robert, Portencallie, Kirkcolum
 1885 Cochran, William, Auchentibbert, Sandhead, Stranraer
 1869 Cowan, George, Mains of Park, Glenluce
 1903 Craig, John, Greyhill, Stoneykirk
 1895 Crawford, Archibald, Broughton Mains, Sorbie
 1895 Crawford, John, Kilbreen, Lochans, Stranraer
 1895 Douglas, John, Balyett, Castle-Kennedy
 1870 Drew, James, of Craigenallie, Doonhill, Newton-Stewart
 1893 Drew, James Lawson, Dranandow, Newton-Stewart
 1903 Dunbar, Lt.-Col. Robert Lennox Nugent, of Machermore, Newton-Stewart
 1893 Fergusson, James, Back-of-Wall, Glenluce
 1893 Findlay, Francis, Drumbreddan, Ardwell, Stranraer
 1903 Findlay, John Steel, Drumbreddan, Ardwell, Stranraer
 1903 Findlay, Wm., Drumbreddan, Ardwell, Stranraer
 1878 Forsyth, John, Reiffer Park, Sorbie
 1903 Forsyth, John, Valleyfield, Kirkcolum
 1902 GALLOWAY, The Earl of, Cumlodan, Newton-Stewart
 1904 Gillon, Andrew, Glasserton
 1871 Gourlay, R. C., Arbrack, Whithorn
 1898 Gray, John, Dairy Works, Stranraer
 1903 Hamilton, Hugh, jun., 7 Bridge Street, Stranraer
 1903 Hamilton, James, Penkiln, Garliestown
 1903 Hamilton, Captain Wm. M. Fleming, of Craighlaw, Kirkcowan
 1878 Hardie, J., jun., Mull of Galloway, Stranraer
 1893 Haswell, Robert, Challockmunn, Glenluce
 1848 Hay, Sir J. C. D., of Park Place, Bart., Glenluce
 1895 Hewatson, John, Baltersan, Newton-Stewart
 1895 Hewatson, Robert, Upper Barr, Newton-Stewart
 1877 HUGHAN, Peter H., Cults, Whithorn
 1895 Hunter, Stephen, Whiteleys, Stranraer
 1888 Hunter, Wm., Garthland Mains, Stranraer
 1895 Hutchison, John, Low Drummore, Kirkmaiden
 1893 Kerr, George, Solicitor, Newton-Stewart
 1893 Kerr, Hugh, West Galdenoch, Stoneykirk
 1893 Kerr, Thomas, Banker, Newton-Stewart
 1903 Lamb, Robert, Gallowhill, Stranraer
 1867 Lang, Alex., Glenluce
 1895 Lennox, Thomas, New Milns, Wigtown
 1888 M'Caig, John, Challock, Leswalt, Stranraer
 1887 M'Caig, John, High Mye, Stoneykirk
 1893 M'Caig, R. Stewart, Kilhill, Stranraer
 1903 M'Camon, John, Barnhills, Kirkcolum
 1892 M'Clean, James, Auchneal, Stranraer
 1892 M'Clelland, Andrew, Glenturk, Wigtown
 1878 M'Clew, David A., Chapel Rossan, Stranraer
 1897 M'Conchie, William, Mains of Penninghame, Newton-Stewart
 1893 M'Connell, James, Boreland, Whauphill
 1877 M'Connell, J. A., Chapelheron, Whithorn
 1878 M'Connell, Thomas M., V.S., Wigtown
 1882 M'Connell, William, Glassnick, Kirkcowan

Admitted

- 1884 M Cracken, Robt, Creamery, Dunragit
 1893 M'Creath, Thomas, Skaith, Newton Stewart
 1870 M'Oulloch, John, Dinvin, Stranraer
 1899 M'Donall, Andrew Kenneth, of Logan, Stranraer
 1904 M'Donall, Nigel Douglas, Logan, Stranraer
 1870 M'Dowall, Andrew, Auchtralure, Stranraer
 1878 M'Dowall, R, Auchengallie, Port William
 1905 M'Fadzean, Henry, Reyburn, Stranraer
 1894 Macfarlane, Donald J, Creebank, Newton Stewart
 1895 M'Garra, William, The Cottage, Ardwell, Stranraer
 1893 M'Geoch, Thomas, Barncaughlaw, Newton Stewart
 1893 M'Gill, Andrew, Barsalloch, Newton Stewart
 1893 M'Gill, Andrew, Kildonan, Stoneykirk
 1895 M'Gill, John, Grange of Cree, Newton Stewart
 1895 M'Harrie, Stair, Rephad, Stranraer
 1871 M'Ilwraith Thomas, Rosebank, Stoneykirk Road, Stranraer
 1878 M Ilwrick, Alex, Quarter, New Luce
 1900 M'Intyre, James, Logan Mains, Ardwell
 1904 Mackeand, A W, M R C V S, Port William
 1880 M'Keand, P, Airies, Whauphill
 1893 M'Lean, Charles Arbuthnot, Solicitor, Wigtown
 1874 M'Master, Allan, Dinvin, Portpatrick
 1871 M'Master, Hugh, Blairbry, Port William
 1875 M'Master, William, Challoch, Dunragit
 1889 M'Master, Wm, junior, Challoch, Dunragit
 1895 M'Millan, James, Falgown, Newton Stewart
 1905 Marshall, Albert James, Bridgebank, Stranraer
 1896 Marshall, J, jun, Drummore
 1885 Marshall, Mathew, Bridgebank, Stranraer
 1878 Matthews, A. B, British Linen Bank, Newton Stewart
 1877 Maxwell, Sir H E, of Monreith, Bart, M P, Whauphill, N B
 1887 Menzies, W. M, Cults, Castle Kennedy
 1875 Milroy, James, Galdenoch, Stoneykirk

Admitted

- 1876 Milroy, John, Galdenoch, Stranraer
 1895 Morrison, D. William, Derry, Kirkcowan
 1895 Morrison, David, Boreland, Kirkcowan
 1896 Murray, John, Kilfillan, Glenluce
 1893 Murray, William, Bortowmoss, Wigtown
 1893 Nicholson, Andrew, Kidsdale, Whithorn
 1893 Niven, John F, Mahaar, Kirkcolum
 1903 Parker, John, Balyett, Stranraer
 1903 Parker, William, Inchparks, Stranraer
 1895 Paton, Robert, Mains of Aries, Ervie, Stranraer
 1903 Rain, William, South Balfarn, Kirkcinner
 1883 Ralston, Wm H, Dunragit Estate Office, Dunragit, N B
 1897 Ritchie, John, Lochans Mill, Lochans
 1893 Robertson, James, Clendrie, Kirkcolum
 1906 Rodan, John Miller, Millbank, Glenluce
 1878 Routledge, J J F, Old Mill, Port William
 1903 Routledge, Joseph, Barsalloch, Port William
 1870 Routledge, Wm, Elrig, Whithorn
 1893 Salomon, William Thomas, Cornwall Park, Newton Stewart
 1893 Shaw, David Burnie, Garboston
 1878 Smith, William, Garrue, Port William
 1904 Sproat, Wm North Balfarn, Kirkcinner
 1904 Strain, the Earl of, Lochinch, Castle Kennedy Station
 1869† Stewart, Sir M J, of Southwick, Bart, Ardwell
 1893 Symington, Thomas, Solicitor, Glenluce
 1893 Taylor, Peter, Longforth, Glenluce
 1871 Thompson, Alexander, Barnmeal, Port William
 1893 Thorburn, John, Port of Spittle, Stoneykirk
 1893 Tully, William, Colfin, Stranraer
 1903 Walker, H H, Monreith Estate Office, Whauphill
 1882 Walker, Wm Albert Villa, London Road, Stranraer
 1890 Wallace, James A, Claycop, Kirkcinner
 1887 Watson, Allan Thomson, Belmont, Stranraer
 1870 Whyte, James A, Kirkmabreck, Stranraer
 1903 Williams, D H Lawson, Holm of Bargrennan, Newton Stewart
 1894 Wither, Thos, Aukuk, Stranraer
 1880 Young, J A, Orchardtown, Gairlieston
 1893 Young, William, Culnoga, Sorbie

7.—INVERNESS DISTRICT.

EMBRACING THE

COUNTIES OF CAITHNESS, ELGIN, INVERNESS, NAIRN, ORKNEY
AND SHETLAND, ROSS AND CROMARTY, AND SUTHERLAND.

CAITHNESS.

Admitted

- 1874 Adam, Thomas, of Lynegar, Wick
1901 Anderson, William S., Shrubbery Bank, Thurso
1901 Barnetson, Benjamin, Milton, Wick
1901 Budge, James, Barnyards, Wick
1901 Clyne, Alexander, of Tister, Bower, Caithness
1901 Davidson, Charles, Coggie, Watten, Caithness
1901 Davidson, James, West Watten, Caithness
1901 Dunnet, Alex., Joiner, Bower, Wick
1894 Dunnet, Alex., Upper Gillock, Wick
1901 Dunnet, George, Greenland, Castletown, Caithness
1894 Ferrier, Jas., Ackergill Mains, Wick
1898 Geddes, Alex., Implement Maker, Wick
1902 Gunn, David, Murkle Estates Office, Thurso
1874 Henderson, A. W., of Bilbster, Wick
1883 Henderson, David P., of Stemster, Halkirk, N.B.
1883 Henderson, Captain J. H., Rosebank, Wick
1881 Horne, Edward Wm., of Shirkoke
1892 Innes, Donald, Borium, Reay, Thurso
1905 Innes, J. D., Calder Mains, Halkirk, Thurso
1873 Irvine, G. F., Shrubbery Bank, Thurso
1901 Keith, Peter, Ulbster Estates Office, Thurso
1901 Keith, Wm., West Canisbay, Castleton, Caithness
1900 King, George, Borriedale, Caithness
1897 Macdonald, George, Pennyland, Thurso
1901 M'Ivor, John, Borrowston, Reay, Caithness
1905 Mackay, Donald, Town and County Bank, Thurso
1907 Mackay, John T., Rattar Mains, Dunnet
1901 Mill, Peter, Achscrabster, Thurso
1861 Miller, John, of Scrabster, Thurso
1894 Morris, Robt., Reis Lodge, Wick
1901 Morrison, Tom, Achvarsdale, Reay, Thurso
1901 Nicholson, Alex., East Murkle, Thurso
1899 Nicholson, Daniel, Olrig Mains, Thurso
1881*[†]Portland, His Grace the Duke of, K.G., Langwell, Wick
1869 Purves, William, Thurdistoft, Thurso
1884 Robertson, Robert, Implement Maker, Wick
1906 Robson, John, jun., Lynegar, Watten, Caithness
1893 Ross, A. M., Editor, *Northern Herald*, Wick
1881 Sandison, M., Hempriggs, Wick—*Free Life Member*

Admitted

- 1906 Sharp, Adam James, Clyth, Caithness
1900 Sinclair, Donald, Implement Maker, Wick
1901 Sinclair, Donald, Stemster, Westfield, Thurso
1902 Sinclair, Fred. Granville, of Mey, Barrogill Castle, Thurso
1867 SINCLAIR, Sir J. G. T., of Ulbster, Bart., Thurso Castle, Thurso
1886 SINCLAIR, Sir John R. G., of Dunbeath, Bart., Barrock House, Wick
1855 Smith, James, of Olrig, Thurso
1876 Sutherland, Alex., Rampyards, Watten—*Free Life Member*
1901 Swanson, William, Rockhill Farm, Wick
1901 Younger, Alex. Hay, Castletown, Caithness

ELGIN.

- 1901 Adam, Alex., Kinneddar, Lossiemouth
1889 Adam, John, Coullardbank, Lossiemouth
1884 Anderson, Robert, Viewfield, Elgin
1899 Anderson, William, Wester Coitfield, Alves, Forres
1901 Austin, Alex., Grand Hotel, Elgin
1902 Ballingall, P. L., Altyre Estates Office, Forres
1902 Baxter, Clement, M.R.C.V.S., Elgin
1879 Beattie, James, Earlsmill, Forres
1901 Black, W. Rose, Town and County Bank, Elgin
1893 Brown, James, Miltonhill, Alves, Forres
1895 Brown, James Paterson, Innesmill, Urquhart, Elgin
1878 Bruce, D. C., Byres, Fochabers
1884 Brydon, John, Forester, Rothes
1901 Butler, Patrick, Hillhead, Forres
1901 Calder, Charles C., Assistant Factor, Earlsmill, Forres
1871 Colvin, James E., Wester Manbean, Elgin
1878 Cruickshank, David, Meft, Elgin
1905 Cumming, D. G., Royal Bank, Forres
1874 CUMMING, Sir Wm. G. Gordon, of Altyre, Bart., Forres
1902 Cunningham, David J., Factor's House, Fochabers
1901 Dawson, George, Kintree, Elgin
1876 Dawson, William, Gordon Castle, Fochabers
1895 Dean, Alexander, Jointure, Leuchars, Elgin
1899 Dean, James, Hatton, Kinloss, Forres
1894 Dean, Wm., Miltonbrae, Elgin
1870 Duff, J. W. Wharton, of Orton, Orton House, Fochabers
1888 Edgar, James, Station Hotel, Elgin

Admitted

- 1804 Edgar, James, jun., Gordon Arms Hotel, Fochabers
 1885 Ferguson, George A., Surradale, Elgin
 1893 Fettes, John, Westertown, Fochabers
 1893 Fettes, William, Corskie, Garmouth
 1901 Findlay, John F., Trochelhill, Fochabers
 1893 Forbes, Robert, Woodhead, Forres
 1901 Forsyth, Robert, Claydals, Forres
 1895 Fraser, Alexander, Earnside, Alves, Forres—*Free Life Member*
 1901 Fraser, Donald, Hempriggs, Alves, Forres
 1898 Fraser, William, Waterford Mills, Forres
 1898 Grant, Charles, Drumhain, Rothes
 1899* Grant, Sir George Macpherson, of Ballindalloch, Bart.
 1900 Grant, G. B. Macpherson, The Castle, Ballindalloch
 1894 Grant, Jas., of Glen Grant, Rothes
 1894 Grant, John, Bogg, Advie
 1879 Grant, J., Mains of Advie, Advie
 1899 Grant, J. W. H., of Wester Elchies, Carron Lodge, Carron, Morayshire
 1894 Grant, Robt., Farmer, Cromdale
 1901 Grant-Peterkin, Montagu James, of Grange, Forres
 1904 Gregory, Alex. Macdonald, Maryhill,
 1880 Haddow, P. M., St Mary's, Orton Station
 1905 Hastlow, George Reginald, Anchnagounal, Grantown-on-Spey
 1883 Henderson, Peter, Factor, Ballindalloch
 1904 Hogg, Alex., County Road Surveyor,
 1864 Hunter, John, Dipple, Fochabers
 1900 Hunter, John, Union Bank of Scotland, Elgin
 1899 Innes, Peter, Orbliston, Fochabers
 1897 Johnston, Col. C. J., Leamurdie, Elgin
 1899 Johnstone, John A., Glenburgie Distillery, Kinloss
 1898 King, William, Kingmills, Elgin
 1896 Laing, Andrew, Brandston, Lochhill,
 1895 Laing, William, Wallfield, Lochhill, Elgin
 1898 Law, Arthur Woodland, Sanquhar Farm, Forres
 1874 Lawrence, James, Forres Mills, Forres
 1898 Leitch, Andrew, Inchstellie, Alves, Forres
 1877 Leitch, Simon, Rose Avenue, Elgin
 1902 Longmoor, James, Linksfield, Elgin
 1902 M'Bain, George, Linkwood Distillery, Elgin
 1893 M'Culloch, Alexander, Ardivot, Lossiemouth
 1902 M'Donald, Alex., Balmoral Terrace, Bishopmill, Elgin
 1901 M'Garra, Gilbert R., Innes Estate Office, Urquhart, Elgin
 1896 M'Gowan, Robert, Auction Mart, Elgin
 1886 M'Gregor, Captain James, Balmesach, Cromdale
 1870 Mackay, H. M. S., Banker, Elgin
 1886 Mackenzie, Thomas, Dalluaine House, Carron, Morayshire
 1901 Mackenzie, W. J., Stank House, Elgin
 1898 Mackessack, Charles A., Asleisk, Forres
 1898 Mackessack, Chas., Wester Alves, Forres
 1882 Mackessack, George R., of Ardyce and Roseisle, Ardyce, Elgin
 1874 Mackessack, John, Kinloss, Forres
 1882 Mackessack, R. H., Newton of Struthers, Forres
 1902 M'Laren, William, Aitrye, Forres
 1898 Maclean, George A., of Westfield, Elgin
 1891 MacLeod, Major Norman, of Dalvey, Forres
 1876 M'William, James, Stonytown, Keith

Admitted

- 1901 Mann, John, Cairnglass, Dunphail
 1893 Mathieson, Alex., Doonpark, Forres
 1898 Mavor, George, Cluny, Forres
 1901 Mavor, Richard, Wellhill, Forres
 1896 Moray, Earl of, Darnaway Castle, Forres
 1873 Muirhead, George, Speybank, Fochabers
 1894 Munro, Alex., Gordon Arms Stables, Elgin
 1901 Murray, William, Northern Auction Mart, Elgin
 1901 Mutch, Alex. C., Keam, Duffus, Elgin
 1894 Mutch, Jas., Deanshaugh, Elgin
 1894 Neish, William, Merchant, Mulben, Boharm
 1905 Nicol, John P., East Mains, Duffus
 1894 Petrie, David, Gilston, Elgin
 1883 Petrie, George, Pitairlie, Elgin
 1901 Ramsay, William, of Longmorn, Elgin
 1904 Reid, George, Tamdun Distillery, Knockando, S.O.
 1901 Reid, George, Rothills, Duffus, Elgin
 1895 Reid, John, Gladhill, Garmouth, Elgin
 1899 Rhind, Alex., Muirton, Kinloss
 1898 Robertson, Hugh, Balmageith, Forres
 1896 Robertson, James, Barmuckity, Elgin
 1870 Robertson, Wm. A., Mayfield, Forres
 1903 Robertson, Wm. Brown, jun., Coleburn, Longmorn, S.O.
 1899 Rose, William M., Toreduff, Alves, Forres
 1883 Russell, Alex., M'yside, Elgin
 1906 Russell, Jas., 110 High Street, Elgin
 1897 Scott, Peter, Mains of Moy, Forres
 1874 Scott, Robert, Easter Manben, Elgin
 1895 Sellar, William, Longhill, Elgin
 1893 Shiach, Gordon Reid, Surgeon Dentist,
 1901 Simpson, John, Stynie, Fochabers
 1898 Simpson, William, Burnside, Fochabers
 1896 Smith, James M., Salterhill, Elgin
 1901 Smith, J. Grant, Seafield Estates Office,
 1905 Smith, Peter, 24 North Street, Elgin
 1900 Smith, Samuel M'Call, Shempston, Duffus, Elgin
 1897 Souter, George, Greyfriars Iron Works, Elgin
 1893 Stephen, Alexander, Coxton, Lhanbryde, Elgin
 1894 Stewart, John, Rynaballoch, Cromdale
 1906 Stuart, Robert Dick, Rothes
 1877 Sutor, James, The Collie, Orton Station
 1893 Tait, James, V.S., Forres
 1874 Thomson, J. Grant, Heathfield, Grantown
 1883 Thurlow, Right Hon. Lord, Dunphail, Forres
 1899 Turner, James Stuart, Teacher, New Elgin
 1882 Urquhart, Robert, jun., Forres
 1859 Walker, Robert, Rosefield, Elgin
 1864 Walker, William, Auchray Buildings, Elgin
 1902 Watson, Alex., Bruceland, Elgin
 1888 Watson, H. A., U.F. Manse, Forres—*Free Life Member*
 1875 Watt, James, Rosebrae, Elgin
 1901 Wiseman, Edward, Nurseryman and Seedman, Elgin
 1870 Wight, Alexander, Ironmonger, Forres
 1864 Yool, Thomas, Calcots, E'

INVERNESS.

- 1900 Allan, Alex., Seafield Farm, Inverness
 1901 Allan, John M., Easter Duthill, Carr Bridge
 1901 Allison, Thomas, Solicitor, Fort-William
 1901 Anderson, Alexander, 49 Eastgate, Inverness

Admitted

- 1886 Baillie, A. C., Dochgarroch, c/o Fletcher & Baillie, W.S., 12 Hill Street
 1883 Baillie, James E. B., of Dochfour, Inverness
 1891 Barron, James, Editor of the *Inverness Courier*, Inverness
 1883 Birnie, Alex., Wellhouse, Beauly
 1892 Birnie, John, Bainsfettack, Inverness
 1874 Biscoe, T. Ramsay, of Newton, Kingillie, Inverness
 1902 Blackburn, Alan, Ostaig, Isle of Skye
 1901 Blundell, Rev. Odo, The Procurator, The Abbey, Fort-Augustus
 1876 Brebner, Robt., Ormus Cottage, Citadel, Inverness
 1901 Brown, Charles M., Manager, Caledonian Bank, Inverness
 1901 Burns, William, Lombard Street, Inverness
 1891 Cameron, Angus, Ben Nevis Auction Mart, Fort-William
 1890 Cameron, James, Coulnakyle, Nethy Bridge, S.O.
 1892 Cameron, James T., Gesto, Isle of Skye
 1892 Cameron, Robert D., Lochgorm, Inverness
 1901 Campbell, Alex., Viewhill, Fort-George
 1891 Campbell, G. J., Sheriff Substitute, The Court House, Portree
 1908 Campbell, Dr Robert B., District Asylum, Inverness
 1901 Cargill, A., Raigmore, Inverness
 1891 Cattell, James, Balspardeen, Gollanfield
 1903 Chisholm, Duncan, Caplich, Kiltarlity, Beauly
 1874 Chisholm, John, 8 Academy Street, Inverness
 1901 Chisholm, William, Groom, Beauly
 1900 Cowan, R., Erchless, Strathglass, Beauly
 1871 Cran, John, Kirkton, Bunchrew, Inverness
 1900 Cran, William John, Kirkton, Bunchrew
 1896 Cumming, William A., Allanfearn, Culloden, Inverness
 1898 Davidson, James, Glenfeshie, Beaufort Road, Inverness
 1898 Davidson, John, Guisachan Home Farm, Inverness
 1888 Davidson, Samuel, Beechhill, Inverness
 1901 Davidson, T. K., Kerrowaird, Gollanfield
 1883 Dick, W. G., Horse-hirer, Inverness
 1902 Douglas, Frances B., Balliemore, Nethy Bridge
 1887 Duncan, James, Fern Villa, Inverness
 1862†Dunmore, Right Hon. the Earl of, Isle of Harris
 1902 Elliot, Matthew, Drummond Street, Inverness
 1902 Elliot, William Robert, Drummond Street, Inverness
 1890 Ferguson, Fergus, Talisker, Portree
 1896 Fletcher, Grant, Bainspicks, Kinncraig
 1894 Fraser, Alexander, Balloch, Culloden, Inverness
 1894 Fraser, Alexander, Solicitor, Inverness
 1883 Fraser, David, Dalneigh, Inverness
 1874 Fraser, James, O.E., Inverness
 1874 Fraser, James, Mauid, Beauly
 1901 Fraser, John Huntly, Dalneigh, Inverness
 1902 Fraser, Robert S., Bunchrew, Inverness
 1852 Fraser, William, Tighneilan, Inverness
 1892 Garrioch, J. T., Lovat Estates Office, Beauly
 1906 Gibson, Thos., Solicitor, Inverness
 1901 Gillanders, Kenneth Alex., Queen's Gate Inverness

Admitted

- 1901 Gordon, Roderick, Wester Inshes, Inverness
 1900 Gossip, James A., Knowsley, Inverness
 1901 Graham, Hugh M., Solicitor, Inverness
 1907 Grant, Alex., Delrachney House, Carr Bridge
 1901 Grant, John C., Garvault, Advie, Strath-spey
 1894 Grant, John Peter, of Rothiemurchus, Aviemore
 1902 Grant, John, Mullochard, Carr Bridge
 1901 Grant, Lewis, Culfoichbeg, Advie, Strath-spey
 1896 Grant, Peter, The Hotel, Carr Bridge
 1908 Grant, Wm., The Dell, Rothiemurchus, Aviemore
 1896 Gray, Donald, Union Street, Inverness
 1875 Guild, James L., Strowan, Inverness
 1882 Gunn, Alex., V.S., Beauly
 1886 Honeyman, Thos., Auchnacarry, Spean Bridge
 1901 Howe, Alex., Parks of Inshes, Inverness
 1906 Hutchison, Alex., Balloan, Inverness
 1905 Johnston, Hugh G., Culduthel Mains, Inverness
 1900 Johnston, William, Culduthel Mains, Inverness
 1883 Jones, R. E., Fassfern, Kinlochiel, S.O.
 1906 Jones, Wm. Everard, Fassfern, Kinlochiel
 1901 Junor, Donald, Robin Cottage, Drummond, Inverness
 1889 Kemble, Major, Knock, Skye
 1888 Laurie, Robert, Eilean Cottage, Drum-nurn, Inverness
 1891 Linton, Andrew, Culdorag, Onich, N.B.
 1894 Livingston-Macdonald, Captain R. M., 3rd Seaforth Highlanders, Flodigarry, Isle of Skye
 1901 Logan, William, V.S., 3 Victoria Circus, Inverness
 1892†Lovat, Lord, O.B., D.S.O., Beaufort Castle, Beauly
 1897 M'Ainsh, James, Kinchurdy, Boat of Garten
 1892 MacAlinsh, John, Congash, Grantown
 1901 MacAllister, T. S., Imperial Hotel, Inverness
 1905 M'Allister, Wm., The Hackney Stud, Inverness
 1906 MacArthur, Donald Charles, Etteridge, Newtonmore, Kingussie
 1902 M'Bain, Wm., Dunnacht, Kingussie
 1892 M'Bain, William, Piterrald, Drumna-drochet
 1895 M'Bean, Daniel, Cradle Hall, Inverness
 1903 MacBean, Malcolm Rae, Milton of Con-nage, Gollanfield
 1883 M'Bean, William, Cradle Hall, Inverness
 1901 M'Coll, A., 22 Eastgate, Inverness
 1883 Macdonald, Alexander, Balintore, Kirk-hill, Inverness
 1874 Macdonald, A. R., Ord, Isle of Ormsay
 1899 Macdonald, Arch. Wm., Blarour, Spean Bridge
 1872 Macdonald, D., Tormore Lodge, Lync-dale, Portree
 1898 M'Donald, D. D., Drumna-drochet, Glen Urquhart
 1889 Macdonald, Hugh, Coach Proprietor, Fort-William
 1899 Macdonald, Jas. Alex. Ranald, of Bal-ranald, Lochmaddy, North Uist
 1901 Macdonald, John, Glenbrittle, Carboist, Isle of Skye
 1896 Macdonald, John, Keppoch, Roy Bridge
 1891 Macdonald, J. H., of Torbreck, Inver-

Admitted

- 1897 M'Donald, Kenneth L., Skirinish, Skeabost Bridge, Isle of Skye
 1899 Macdonald, Ronald, Solicitor, Portree
 1901 Macdonald, Simon, Culduthel, Inverness
 1900 M'Donald, Simon, Commercial Bank, Beauly
 1900 Macdonald, William, Cluny Mains, Kingussie
 1883 Macdonald, William, Morayston, Petty, Inverness
 1899 MacDonnell, Alexander, Dunbelloch, Beauly
 1865 MacEwen, John C., Inverness
 1893 Macfarlane, And., Viewfield, Kingussie
 1879 M'Gillivray, Allan, Banchor, Kingussie
 1906 MacGillivray, Donald H., Biallid, Newtonmore, Kingussie
 1899 M'Gillivray, W., Garbole, Tomatin
 1876 MacGillivray, William, Eoligary, Barra
 1877 M'Gregor, Arch., Glen Nevis, Fort-William
 1898 Mackay, Simon (D. Ross & Co.), Baron Taylor's Lane, Inverness
 1901 M'Kay, William, Solicitor, Inverness
 1893 M'Kenzie, Alex., C.E., Kingussie
 1902 Mackenzie, Alex., Dochfour Estates Office, Queen's House, Academy St., Inverness
 1901 M'Kenzie, David Fraser, Stratton, Culloden, Inverness
 1891 Mackenzie, Dr M. T., Scolpaig, Lochmaddy
 1903 Mackenzie, N. B., Estate Office, Fort-William
 1874 Mackenzie, N. B., British Linen Bank, Fort-William
 1902 Mackenzie, R. D., Inchroary, Beauly
 1901 Mackenzie, Simon, The Hotel, Lochboisdale
 1886 Mackenzie, William D., of Farr, Daviot (Fawley Court, Henley-on-Thames)
 1905 Mackintosh, Angus, Uig, Isle of Skye
 1883 Mackintosh, A. D., of Mackintosh, Moy Hall, Inverness
 1883 Mackintosh, Hugh, Balmore, Culduthel, Inverness
 1903 Mackintosh, Hugh, Rose Valley, Gollanfield
 1901 Mackintosh, W. W., of Raigmore, Inverness
 1901 M'Lean, James, Merchant, Beauly
 1901 Maclean, Neil, Nunton, Benbecula, Lochboisdale
 1875 M'Leish, Daniel, Bank of Scotland, Fort-William
 1901 M'Leod, Murdo, Woodend, Drummond, Inverness
 1893 M'Lennan, Alexander, Beechwood, Inverness
 1898 Macniven, Duncan, Fort-William
 1878 Macpherson, C. J. B., of Balavil, Kingussie
 1900 Macpherson, Donald, Keppoch Farm, Arisaig
 1888 Macpherson-Grant, John, Old Milton, Kingussie
 1883 Macrae, Alexander D., Ruthven, Kinross
 1900 MacRae, Duncan, Falls of Truim, Newtonmore
 1901 MacRae, Duncan A., Tomich, Beauly
 1891 Macrae, Horatio Ross, W.S., of Clunes, Inverness (57 Castle Street, Edinburgh)
 1874 Macrae, Roderick, Posting Establishment, Beauly
 1901 Macrae, Roderick, jun., Lovat Arms Posting Establishment, Beauly
 1883 MacTavish, Alex., Implement Maker, Inverness

Admitted

- 1901 M'Tavish, P. D., 36 Academy Street, Inverness
 1900 M'William, W. L., Culmill, Beauly
 1869 Malcolm, George, Craigard, Invergarry
 1883 Manners, C. R., C.E., Inverness
 1865 Martin, John, Docharn, Boat of Gartan, Strathspey
 1889 Martin, Nicol, of Glendale, Dunvegan
 1884 Maxwell, Hon. B. C., Farley House, Beauly
 1883 Merry, A. W., of Belladrum, Beauly
 1883 Merry, C. J., Belladrum, Beauly
 1874 Mitchell, Andrew, 51 Crown Street, Inverness
 1900 Morison, John, Teanalaonaig, Beauly
 1905 Morrison, John, jun., Cairnglass, Gollanfield
 1898 Murray, Donald, 60 Eastgate, Inverness
 1902 Murray, John, Rangemore Road, Inverness
 1901 Nairn, James, Newton of Petty, Inverness
 1890 Nicholson, Arthur Wm., Arisaig House, Fort-William
 1893 Oberbeck, C., 25 Inglis Street, Inverness
 1861 Purves, James, Kingsburgh, Portree, Isle of Skye
 1901 Rattray, John C., Easter Moniak, Inverness
 1879 Reid, F. R., Wolfenden's Hotel, Kinross
 1900 Ritchie, William, Teawig, Beauly
 1883 Roberts, Wm., Highland Railway Co., Inverness
 1901 Robertson, Donald, Breackachy, Newtonmore, Kingussie
 1906 Robertson, D. J., Dalziel, Gollanfield Station
 1901 Robertson, Theodore, Auction Mart, Inverness
 1894 Robertson-Macleod, K. M., of Greshornish, Isle of Skye
 1890 Rose, Hugh Francis, of Holme Rose, Fort-George
 1865 Rose, James, Mains of Connage, Gollanfield
 1865 Rose, John, Leannach, Inverness
 1883 Ross, Alex., Architect, Inverness
 1883 Ross, James, Solicitor, Inverness
 1883 Ross, Wm., Seafield of Raigmore, Inverness
 1893 Scott, David, Auctioneer, Inverness
 1901 Shaw, D., Flichty, Daviot
 1883 Shaw, Duncan, W.S., Inverness
 1901 Shaw, John A., Slackbule, Inverness
 1897 Sinclair, Robert, Factor, North Harris, Portree
 1865 Smith, John, Inverallan House, Grantown
 1900 Smith, R. A., Wester Lovat, Beauly
 1906 Sopper, Wm., of Dunmaglass, Daviot, Inverness
 1902 Souter, James Francis, Commercial Bank, Inverness
 1901 Steele, A. F., Bank of Scotland, Inverness
 1901 Stewart, Charles D., of Brin, Daviot
 1887 Stewart, J. C., Glenmoldart, Moidart
 1858 Stewart, Robert, of Kinlochmoldart, Salen
 1896 Strother, Dr James, Balmachree, Petty, Inverness
 1902 Stuart, Henry, Estate Office, Knoydart, Mallaig
 1865 Sutherland, E. C., Highland Club, Inverness
 1898 Thom, Allan, Gilmour, Canna
 1901 Thomson, Robert, Eileanach, Inverness
 1883 Tytler, Edward G. F., of Aldourie, Inverness

Admitted

- 1889 Urquhart, Farquhar, Seedsman, Inverness
 1902 Walker, James, Sawmills, Inverness
 1886 Watson, Jas., Moy Hall, Moy, Inverness
 1902 Wolfenden, William, Wolfenden's Hotel, Kingussie
 1899 Wotherspoon, George, Cromartie Estate Office, Kildary
 1901 Young, John, Oldtown, Inverness

NAIRN.

- 1902 Adam, Walter, Park, Nairn
 1901 Allan, James, Penick, Nairn
 1901 Allan, James A., Broomhill, Nairn
 1906 Brodie, Capt. Alex., of Lethen, Nairn (2nd Scots Guards, Guards' Club, London)
 1878 Cameron, Dr James Angus, of Firhall, Nairn
 1901 Cameron, John, Merryton, Nairn
 1906 Cawdor, The Earl, Cawdor Castle, Nairn
 1901 Clark, Alex., Blackpark, Nairn
 1891 Clark, James, 12 Waverley Road, Nairn
 1900 Clark, Walter, Hilton of Delmes, Nairn
 1902 Davidson, Donald, Mains of Croy, Gollanfield
 1888 Donaldson, H. T., Banker, Nairn
 1891 Fiddes, George, Drumduan, Nairn
 1892 Finlay, Sir R. B., of Newton, K.C., Nairn
 1894 Gowans, Charles F., Newton of Budgate, Cawdor, Nairn
 1906 Grant, James Augustus, Househill, Nairn
 1865 Joss, John, Budgate, Cawdor
 1896 MacArthur, Alex., Nairnside, Cawdor, Nairn
 1906 MacArthur, David, Fleenas, Nairn
 1899 Macdonald, A. J., Cawdor Estate Office, Nairn
 1901 M'Killiean, James, Glenlyon, Nairn
 1888 M'Killiean, P., Glenlyon, Nairn
 1891 Malcolm, William, Braekla, Nairn
 1874 Mather, John Arres, Delmes, Nairn
 1891 Methven, Edward W., Hazelbrae, Nairn
 1885 Mill, George, Piperhill, Nairn
 1901 Robertson, Hugh, Newton of Cawdor, Nairn
 1892 Robertson, John, Horse-hirer, Nairn
 1878 Robertson, John S., Cawdor Estate Office, Nairn
 1894 Robertson, William, Tomlunguhart, Nairn
 1901 Rose, Donald, Crook, Nairn
 1865 Rose, Major James, of Kilravock, Gollanfield
 1894 Squir, Geo., Kildrummie, Nairn
 1906 Squir, John, 4 Queen's Gate, Inverness
 1906 Stephen, Wm., Melkie Geddes, Nairn
 1884 Stewart, D. A., Lochduh, Nairn
 1901 Tochar, James, Blairmore, Cawdor, Nairn
 1875 Walker, George A., Heathmount, Nairn
 1889 Walker, John Mackintosh, of Geddes, Nairn
 1907 Watson, Wm., Home Farm, Cawdor Castle, Nairn

ORKNEY AND SHETLAND.

ORKNEY

- 1899 Baikie, Alex., Blanstier, St Margaret's Hope
 1870 Cromarty, William, Widewall House, South Ronaldshay, Orkney
 1894 Davidson, William Henry Bain, Kirkwall

Admitted

- 1872 Drever, James, The Leigh, Stenness, Orkney
 1884 Fortescue, William I., Swanbister, Kirkwall
 1906 Gibson, James, Hutton House, Rousay, Orkney
 1896 Heddle, Peter Sinclair, Gaitnip, Kirkwall
 1902 Horne, H. H., Trumland Farm, Rousay, Orkney
 1901 Ironside, William A., Bankhead, Sandwick, Orkney
 1899 Irvine, James, Stove Farm, Sanday, Orkney
 1879 Johnstone, James, Orphir House, Orphir
 1906 Kennedy, John, Bow, Burray, Orkney
 1892 MacLennan, William, Factor, Zetland Estates Office, Kirkwall
 1904 Marwick, William, Estate Office, Walls, Orkney
 1887 Maxwell, Henry, How, Sanday
 1884 Reid, Alfred, Braebuster, Kirkwall
 1905 Robertson, James M. H., Lyking, Sandwick, Stromness
 1884 Scarth, Robert, Binscarth, Finstown, Orkney
 1904 Skea, James G., Ayre, Deerness
 1884 Stephen, Donald, Caldale, St Ola, Kirkwall
 1877 Stevenson, William, Holland, Stromsay
 1894 Tait, John, Papdale, St Ola, Kirkwall
 1901 Ward, W. Cowper, Factor, Scar, Sanday
 1878 Watt, W. G. T., Kierfield House, Stromness

SHETLAND.

- 1884 Anderson, Gilbert, Hillswick, Lerwick
 1863 Bruce, John, of Sumburgh, Lerwick
 1892 Edmonston, Laurence, of Bunes, Unst
 1907 Edmonston-Saxby, T., Hallgarth, Baltasound, Shetland
 1907 Mackay, Hugh, Mailland, Baltasound, Shetland
 1886 Manson, Anderson, Laxfirth, Lerwick
 1891 Manson, Peter, Lunna, Shetland
 1901 White, Mountford Adie, Flemington, Weisdale, Shetland

ROSS AND CROMARTY.

- 1901 Adam, William A., Humberston, Dingwall
 1907 Allan, George Grant, Stittenham, Ainess
 1888 Anderson, T. A., Ballachraggan, Ainess
 1896 Bain, Donald, Applecross, Strons Ferry
 1892 Brownold, Sir Arthur, of Loch Rosque, M.P., Achnasheen
 1893 Binning, James, Strathpeffer
 1902 Bisset, John A., Drumderfit, Munlochy
 1901 Brook, Alex. Wm., Corn Merchant, Invergordon
 1901 Brooke, John A., of Fearn Lodge, Ardgay
 1887 Brown, Rev. W. L. Wallace, The Manse, Ainess
 1908 Budge, John Henry, Arbol, Fearn
 1896 Burness, Charles, Factor, Munlochy, Ross-shire
 1888 Cameron, Colin M., Bainakyle, Munlochy
 1869 Cameron, Duncan, Balblair, Edderton
 1896 Cameron, Kenneth Murray, Balblair, Edderton
 1901 Campbell, Alex., Balnaben, Conon, Ross-shire
 1901 Carnegie, Andrew, LL.D., Skibo Castle, Ardgay
 1894 Colvill, Robert, Tore, Ross-shire

Admitted

- 1905 Cornack, Alex , St Vincent, Tain
 1901 Craigen, Alexander, Kirkton, Invergor-
 don
 1893 Cuthbert, Thomas W , Achindunie, Al-
 ness
 1865 Darroch, Duncan, of Gourrock Torndon,
 Achnasheen
 1899 Davidson, A B , Lower Kincraig, Inver-
 gordon
 1907 Davidson, John, Bogbain, Tain
 1899 Dempster, John, Glastullich, Nigg
 1903 Douglas, George, Seafield, Port
 mahomack
 1861 Douglas, Thomas, Mains of Rhyne,
 Fearn
 1892 Duncan, William J Solicitor, Dingwall
 1901 Fearn, John, Tarradale Mains, Muir of
 Ord
 1901 Finlayson, Roderick, Ardachie, Tain
 1884 Fletcher, J D , of Rosehaugh, Inver-
 ness
 1893 Forbes, Lachlan, Culcraigne, Alness
 1896 Forsyth, Ian Asher, Ballintraid, Delny
 1904 Fowler, John A , Drumore, Munloch
 1897 Fowler, Donald, of Mansfield, Tain
 1893 Fraser, Donald, jun , Balmtore Hotel,
 Fearn
 1893 Fraser, Malcolm F , Balaldie, Fearn
 1903 Fraser, Roderick, Udale, Poyntzfield, In-
 vergordon
 1902 Garrow William, Polnicol, Delny
 1903 Gill, Thomas Douglas, Roskeen, Inver-
 gordon
 1896 Gill, William Hope, Roskeen, Inver-
 gordon
 1896 Glendinning, George E , Home Farm,
 Dochfour, Inverness
 1874 Gordon, J A , of Arabella, Nigg
 1875 Gordon, John, Culhise, Nigg
 1893 Grant, William, Rarchie Nigg
 1894 Henderson, Alexander, Merchant, Ding-
 wall
 1883 Henderson, James, Culcarn, Inver-
 gordon
 1884 Henderson, John, Factor, Fortrose
 1889 Henderson, Thomas Assistant Factor,
 Fortrose
 1903 Hill, Ernest G , Raddery, Fortrose
 1903 Hope, Stephen Jervis, Kinnahard,
 Strathpeffer
 1905 Hosack, John A. Campbell, Balchraggan,
 Alness
 1879 Inglis, George, of Newmore, Invergor-
 don
 1907 Laidlaw, J D , Scotsburn, Kildary
 1901 Lang, Robert P S , Kinkell Castle,
 Conon
 1892 Linton, John, Castle Craig, Nigg
 1883 Littlejohn, Alex , of Invercharron,
 1893 Logan, David, Auchtertyre, Strone Ferry
 1889 Lumsden, John William, Navity, Crom-
 arty
 1901 M'Corquodale, A., Meddat, Parkhill,
 Ross shire
 1902 M'Donald, Andrew Hall, of Calrossie,
 Nigg, Ross shire
 1893 Macdonald, Donald, Wilkhaven, Port
 mahomack
 1901 Macdonald, Gordon J , New More Mains,
 Invergordon
 1902 Macfarlane, Alex , Rosemount, Tain
 1895 M'Farlane, Robert, Saltburn, Invergor-
 don
 1906 M'Gillivray, John, Aldie, Tain
 1874 MacGregor, James G , Tain
 1897 MacIntyre, Alex Muckay, Brae, Ding-
 wall
 1901 M'Intyre, Alastair M , Findon Mains,
 Conon Bridge

Admitted

- 1899 M Intyre, John, Ballfield, North Kessock
 1875 M'Intyre, P B , Mains of Findon, Conon
 Bridge
 1875 MacIntyre, Robert, of St Martin s, Conon
 Bridge
 1907 Mackay, David J , of Heathmount, Tain
 1892 Mackenzie, Sir A G Ramsay, of Coull,
 Barts, Strathpeffer
 1873 Mackenzie, Andrew, of Dalmore, Alness
 1901 Mackenzie, Major A F , of Ord, Muir
 of Ord
 1895 Mackenzie, A F , Inverbreakie, Inver-
 gordon
 1901 Mackenzie, Col A F H Stewart, of
 Seaforth, Brahan Castle, Conon Bridge
 1903 Mackenzie, Charles, British Linen Co
 Bank, Tain
 1904 Mackenzie, Donald, Blackstand, For-
 trose
 1901 M'Kenzie, Donald, Meikle Ussie, Conon
 Bridge
 1907 Mackenzie, E Burton, Belmaduthy
 Farm, Munloch
 1900 M Kenzie, Eric G , Ardross Mains,
 Alness
 1900 Mackenzie, Edward J , Hilton Farm,
 Tain—Free Life Member
 1905 Mackenzie, Hugh, yr of Dundonnell,
 Dundonnell
 1865 Mackenzie, James Fowler, of Allan
 grange, Munloch
 1895 Mackenzie, Sir Kenneth J , of Garloch,
 Barts (10 Moray Place, Edinburgh)
 1883 Mackenzie, William, Procurator Fiscal,
 County Buildings, Dingwall
 1899 Mackenzie, Wm Farquharson, yr of
 Dalmore, Alness
 1905 Mackinnon, Chas (Howden & Co),
 Seedsman, Inverness
 1900 Mackintosh, D , Auctioneer, Dingwall
 1901 Maclean, R , of Drynie, Kessock, Inver-
 ness
 1905 M Lennan, Hugh, Ferintosh Distillery
 Co , Ltd , Dingwall
 1902 MacLennan, John, Ardarroch, Loch
 carron
 1900 M Lennan, William, Ardnagsk, Muir
 of Ord
 1901 MacLeod, Captain R , of Cadboll, Inver-
 gordon Castle, Invergordon
 1901 M Rae, Duncan J , Fairburn Mains,
 Muir of Ord
 1888 M' Rae, Ewen M , Kinbeachie, Conon
 Bridge
 1905 MacRae Murdo, of Kinbeachie, Conon
 Bridge
 1878 M'Raw Donald, Strathgarve Estates
 Office, Garve, R S O
 1887 Matheson, Sir Kenneth J , of Lochulsh,
 Barts, Gledfield, Bonar
 1892 Meiklejohn, John J R, Nova Evanton
 1907 Meiklejohn, Wm , Dal Gheal, Nova,
 Evanton
 1901 Meldrum, Thos G , Kilmuir Easter,
 Delny Station
 1881 Middleton, Lord, Applecross, Loch
 carron
 1875 Middleton, A A , Rosefarm, Invergordon
 1884 Middleton, George, Cornon, Conon
 1872 Middleton, Jon , Davidston, Invergor-
 don
 1872 Middleton, Jon , Glastullich, Nigg
 Station
 1903 Middleton, Thomas, Cornon, Conon
 Bridge
 1898 Middleton, Walter Ross Taylor, Solic-
 itor, Dingwall
 1875 Mitchell, Andrew, Ratagan House, Loch
 alsh

Admitted

1897 Monro, Capt. Sir D., of Allan, Fearn
 1905 Moore, D. H., Drummond, Evanton
 1907 Mundell, Walter S., Wester Moy, Muir of Ord
 1904 Munro, Alex., Newton of Novar, Evanton
 1901 Munro, David, Tenagairn, Conon Bridge
 1901 Munro, Finlay, of Rockfield, Fearn
 1888†Munro, Sir Hector, of Foulis, Bart., Dingwall
 1898 Munro, Hector, V.S., Fearn
 1901 Munro, Kenneth, Tullich, Munloch
 1892 Munro, Stuart C., of Teanachich, Alness
 1891 Murdoch, Alex., Dalnavie, Alness
 1875 Murdoch, James, Drynie Mains, Inverness
 1904 Murdoch, Jas. jun., Drynie Mains, North Kessach, Inverness
 1884 Murray, Charles, of Lochcarron, Dingwall
 1883 Murray, William, Kilcoy, Muir of Ord
 1892 Ness, Charles, Calrossie Mains, Nigg Station
 1893 Paterson, Alex., Edderton, N.B.
 1901 Paterson, William, Mains of Foulis, Evanton
 1874 Paterson, Wm. G., Ord, Invergordon
 1898 Perrins, C. W. Dyson, Ardross Castle, Alness
 1898 Peterkin, James B., Mountrich, Dingwall
 1900 Peterkin, John W., Dunglass, Conon Bridge
 1901 Peterkin, William, Dunglass, Conon Bridge
 1883 Rae, William, Nonikiln, Alness
 1906 Rattray, Chas. Gordon, Pitglassie, Dingwall
 1901 Rattray, John, Phoinneas, Beaulie
 1884 Reid, N., New Kalso, Strathcarron, Ross-shire
 1901 Robertson, John, Implement Maker, Conon Bridge
 1895 Robertson, John Cameron, Fodderty, Dingwall
 1904 Robertson, Peter D., Torachilly, Strathpeffer
 1902 Robertson, Wm. John, Mounteagle, Fearn
 1902 Ross, Andrew George, Meikle Tarrel, Fearn
 1896 Ross, Donald, Balmagown Arms Hotel, Tain
 1898 Ross, George, Bayfield, Nigg
 1898 Ross, George A., Rhynie, Fearn
 1876 Ross, James, Pollo, Delny, R.S.O.
 1874 Ross, John, Meikle Tarrel, Fearn
 1893 Ross, John, Railway Contractor, Fearn

Admitted

1892 Ross, John F., Pitcalnie, Nigg
 1901 Ross, William, Bridgend, Dingwall
 1884 Ross, William, Kinnahaird, Strathpeffer
 1887 Ross, Col. W. C., of Cromarty, Cromarty
 1892 Scott, James, Fearn
 1893 Simpson, David William, Arcan Mains, Muir of Ord
 1897 Spence, Alexander O. Stewart, of Garguiston, Muir of Ord
 1897 Stephen, James, Glenmorangie Distillery, Tain
 1888 Stirling, John, of Fairburn, Muir of Ord
 1891 Stirling, Major William, yr. of Fairburn, Ord House, Muir of Ord
 1888 St Quintin, Geoffray Aspley, Cromarty
 1895 Stuart, David, Estate Office, Munloch
 1900 Thompson, Alex., Conon Brae, Conon Bridge
 1898 Urquhart, Charles, Ironmonger, Dingwall
 1898 Urquhart, James, Kessock Farm, Kessock
 1906 Vanzella, Thomas A., Broomhill, Muir of Ord
 1891 Walker, William, Contullich, Alness
 1901 Watson, Arch., Corn Factor, Invergordon
 1901 Wood, James, Hilton, Fearn, Ross-shire
 1901 Young, George, Cadboll, Fearn, Ross-shire
 1901 Young, James G., Cadboll, Fearn, Ross-shire

SUTHERLAND.

1906 Cameron, James D., Kirkton, Golspie
 1898 Campbell, J. R., Shinness, Lairg
 1901 Dudgeon, William John, Craik, Loth
 1905 Finlayson, Peter, West Greenland, Castletown, Thurso
 1900 Hardie, Jas. F., Factor, Skibo, Dornoch
 1899 Hill, Edward E., Naviedale, Helmsdale
 1874 Hill, Robert Robertson, Naviedale House, Helmsdale
 1899 Macaulay, A. N., Banker and Factor, Golspie
 1890 Mackintosh, John, Proncy, Dornoch
 1888 McLean, Donald, Rhives, Golspie
 1844 Menzies, Duncan, Blairach, Lairg
 1899 Miller, Wm., Balmakell, Durness, Lairg
 1874 Mitchell, James R., Oulgower, Loth
 1901 Mundell, C., Delny Farm, Delny
 1901 Mundell, Walter, Dalchork, Lairg
 1883 Shaw, James T., Gordonbush, Brora
 1896 Trotter, William, Harvieston, Kinbrace

8.—BORDER DISTRICT.

EMBRACING THE

COUNTIES OF BERWICK, PEEBLES, ROXBURGH, AND SELKIRK.

BERWICK.

Admitted

- 1900 Aitchison, John, Lochton, Coldstream
 1892 Aitchison, Wm., Kames, West Mains, Greenlaw
 1901 Aitken, Captain John Christie, Nisbet, Duns
 1900 Allan, John, of Peelwalls, Ayton
 1897 Balfour, C. B., of Newton Don, Kelso
 1906 Bell, Robt. Fitzroy, of Temple Hall, Coldingham
 1898 Bartram, George William, Birkenhead, Earliston
 1874 Bartram, John, Addinston, Lauder
 1898 Black, James, New Ladykirk, Norham-on-Tweed
 1904 Blackadder, John W., Ninewell Mains, Chirnside
 1885 Boswall, Sir G. Houstoun, of Blackadder, Bart., Chirnside
 1891 Broomfield, George L., Solicitor, Lauder
 1888 Brown, Colonel, of Longformacus, Duns
 1893 Brown, Robert, Cammo Foundry, Duns
 1900 Brown, Robert, Todlaw, Duns
 1883 Brydon, Thos. T., Burncastle, Lauder
 1884 Calder, T. A., Billie Mains, Chirnside
 1872 Calder, W. A., Oxenrig, Coldstream
 1880 Carmichael, John, Coldstream
 1898 Carter, Thomas (Carter & Sons), Berwick-on-Tweed
 1902 Cockburn, James, Knock, Duns
 1889 Cookson, C. L. Stirling, of Renton, Grant's House
 1872 Cowe, Peter, Old Castles, Chirnside
 1901 Craw, James Hewat, West Foulden, Berwick-on-Tweed
 1899 Darling, Alexander, Governor's House, Berwick-on-Tweed
 1880 Darling, Thomas, 1 Palace Street East, Berwick-on-Tweed
 1896 Davison, Robert, Harcarse, Duns
 1882 Dickenson, Robert, Longcroft, Lauder
 1899 Dickinson, William Bell, Longcroft, Lauder
 1891 Dodds, Robt., Blackadder Bank, Chirnside
 1898 Doughty, James T. S., Ayton
 1898† DUNGLASS, Lord, Springhill House, Coldstream
 1887 Dykes, Thomas, Press Mains, Reston
 1889 Edington, William, Woodend, Duns
 1854 Elder, W., Implement Works, Berwick-on-Tweed
 1900 Elliot, David P., Nesbit Hill, Duns
 1893 Elliot, Frank, Middlestots, Duns
 1894 Elliot, Walter, Harehead, Duns
 1907 Erskine, Thos., Cross Keys, Eyemouth
 1882 Ferguson, J., Duns Castle Estate Office, Duns
 1896 Fleming, John, Craigsford Mains, Earliston

Admitted

- 1898 Fleming, John, jun., Bowerhouse, Oxtou, Lauder
 1897 Forrest, Robt. Jack, Stewartslaw, Edrom
 1884 Fulton, John, Hatchednize, Coldstream
 1878† Gabb, Robert Shirra, Boon, Lauder—*Free Life Member, 1885*
 1900 Gibson, John, Solicitor, Duns
 1893 Gillies, John, Edington Mills, Chirnside
 1882 Gilroy, James, Berwick-on-Tweed
 1907 Gray, Charles, Northburn, Eyemouth
 1894 Grieve, Andrew, Flass, Gordon
 1885 Grieve, James, Rumbledonlaw, Greenlaw
 1892 Haldane, Fred., 71 Ravensdowne, Berwick-on-Tweed
 1898 Hardy, George, Old Cambus, Cockburnspath
 1898 Hardy, William, jun., Harperton, Kelso
 1908 Henderson, George, East Morriston, Earliston
 1881 Herbertson, Robert H., Fans, Earliston
 1906 Hogarth, Walter T., Castleview, Berwick
 1893 Hogg, George, Horsely, Reston
 1892 Hogg, Robert, Fireburn Mill, Coldstream
 1900 Holme, Chas. H., of Rathburne, Duns
 1860† Home, Right Hon. the Earl of, The Hirsell, Coldstream
 1895 Home, David William Milne, of Wedderburn, Caldra, Duns
 1880 Hood, James, Linhead, Cockburnspath
 1900 Hood, John, Mid-Edrom, Edrom
 1895 Hood, T., F.S.I., High Street, Coldstream
 1879 Hope, A. Peterkin, of Sunwick, Berwick
 1906 Hope, Cecil Arthur, Chapel-on-Leader, Earliston
 1886 Hope, Col. Charles, of Cowdenknowes, Earliston
 1876 Hunter, Jas., of Antonhill, Coldstream
 1898 Inch, John, Quixwood, Grant's House
 1898 Johnstone, Robert Fender, Law House, Coldingham
 1886 Laurie, John H., Hardens, Duns
 1884 Leadbetter, H. M., Legerwood, Earliston
 1907 Little, Jack, Stannrigg, Coldstream
 1859 Lockie, William, Chocelee, Duns
 1884 Logan, Adam S., Ferney Castle, Reston
 1893 Lyal, Alex., Greenknowe, Gordon
 1905 Lyal, Robt., Cammerlaws, Gordon
 1884 Lyal, William, Edington Mains, Chirnside
 1898 M'Bain, Alexander, Implement Dealer, Coldstream
 1886 M'Creath, H. G., Berwick-on-Tweed
 1907 Macdonald, A. D., Lennel, Coldstream
 1901 M'Dougal, Arthur Robert, Blythe, Lauder
 1898 M'Dougal, George, Bassendean, Gordon
 1898 M'Dougal, James, Eccles Tofts, Greenlaw
 1898 M'Dougal, John, Lylestone, Lauder

Admitted

- 1881 Mack, Joseph, of Barrybank, Reston
 1898 Mackay, John, Wyndhead, Lauder
 1906 Mather, Arthur, Milne Graden, East Mains, Coldstream
 1905 Mather, J. C., Ellenford, Duns
 1906 Mather, Matthew, Printonan, Duns
 1906 Mather, William, West Mains, Milne Graden, Coldstream
 1907 Menzies, Lt.-Col. C. T., Kames, Coldstream
 1894 Michael, Reginald Warburton, Crosbie, Earlstoun
 1884 Middleton, Hilton, Kimmerghame Mains, Duns
 1898 Middleton, William, Cocklaw, Ayton
 1898 Mill, George, Hyndsidehill, Gordon
 1898 Milne, Robert F., Spital Mains, Berwick-on-Tweed
 1898 Milne, Wm., Foulden Newton, Berwick-on-Tweed
 1903 Mitchell-Innes, A. Harold, of Whitehall, Chirnside
 1898 Murray, James, Brockholes, Grant's House
 1898 Murray, Thomas, Brockholes, Grant's House
 1880 Nisbet, George, Rumbelston, Greenlaw
 1870 Nisbet, James, of Lambden, Greenlaw
 1801 Paterson, D. T., Sinclair's Hill, Duns
 1905 Peters, J. S. (J. B. Black & Co., Ltd.), Berwick-on-Tweed
 1906 Porteous, Andrew M., Solicitor, Coldstream
 1880 Porteous, James, Solicitor, Coldstream
 1898 Purdie, Adam, Cranshaws, Duns
 1878†REAY, The Right Hon. Lord, Carolside, Earlstoun
 1898 Roberts, Harry L., Chapel-on-Leader, Earlstoun
 1892 Robertson, William, Binkbonny, Earlstoun—Free Life Member
 1899 Scott, J., Oil Mills, Berwick-on-Tweed
 1892 Sellar, E., The Crooks, Coldstream
 1894 Shepherd, David, Hardies Mill Place, Kelso
 1890 Smith, Andrew, of Whitechester, Duns
 1880 Somervail, J. A., Broomydykes, Chirnside
 1874 Stephenson, Richard, Chapel, Duns
 1898 Stephenson, Thomas, Kidshielhaugh, Duns
 1898 Stokes, Thomas, Tweed Iron Works, Berwick-on-Tweed
 1884 Swan, Robert G., Shawbraes, Reston
 1880 Swinton, J. L. Campbell, of Kimmerghame, Duns
 1899 Taylor, J. P. Ross, Mungo's Walls, Duns
 1899 Thomson, Ralph, Merchant, Sandgate, Berwick-on-Tweed
 1885 Thomson, Samuel, Buxley, Duns
 1898 Torrance, Thomas, Hutton Hall, Barns, Hutton, Berwick
 1906 Tullock, A., Brow of the Hill, Berwick-on-Tweed
 1894 Turnbull, George Gillon, of Abbey St Bathans, Grant's House
 1884 Tweedie, David, Nether Howdan, Lauder
 1884†TWEEDMOURS, Lord, Hutton Castle, Berwick-on-Tweed
 1893 Usher, Frederick, Broomhouse, Duns
 1894 Watson, J. M., Bassendean House, Gordon
 1898 Webster, John, Edrom-Newton, Edrom
 1885 Welsh, Alex., Seedsman, Coldstream
 1900 Wight, James, Greenwood, Grant's House
 1899 Wilkie, James Bruce, of Foulden, Berwick
 1898 Wilson, James H., Crumstane, Edrom

Admitted

- 1900 Wilson, Philip, Corn Factor, Duns
 1864 Wood, James, Janefield, Lauder
 1906 Wright, A. T., Causway Bank, Reston
 1885 Wright, Hugh, Blackburn, Cockburnspath
 1905 Wylie, Alexander, Pathhead, Cockburnspath
 1874 Wylie, James, Pathhead, Cockburnspath

PEEBLES.

- 1902 Ainslie, John, Estate Office, Stobo
 1898 Balfour, F. R. S., Dawyck House, Stobo
 1905 Ballantyne, Sir Henry, Provost of Peebles
 1905 Ballantyne, Henry Norman, Caerlee, Innerleithen
 1884 Ballantyne, William, Wormiston, Eddleston
 1872 Brown, Wm., Elderscroft, Springhill
 1906 Brownlee, R. C., Hurdleshope, Peebles
 1906 Brydon, Adam, Tweedbank, Innerleithen
 1905 Cairns, Andrew, Live Stock Salesman, Peebles
 1898 Caverhill, J. M., Manor, Peebles
 1902 Clark, R., Gosland, Biggar
 1898 Clarkson, Alexander, Skirling Mill, Biggar
 1898 Clarkson, Robert, Burnetland, Broughton
 1892 Constable, George W., Traquair Estate Office, Innerleithen
 1899 Cunningham, Captain John, yr. of Lethenhop, Innerleithen
 1894 Davidson, Alexander, Ladyurd, Dolphinton
 1874 Dickson, W. L., Drumelzier Haugh, Biggar
 1905 Douglas, George, Earlypier, Eddleston
 1906 Dyer, James, Haystoun, Peebles
 1884 Dyson, F. W., Chapelhill, Peebles
 1874†ELIBANK, Right Hon. Lord, Darn Hall, Eddleston
 1905 Elibank, Master of, M.P., Juniper Bank, Walkerburn
 1884 Ellis, John, Laverlaw, Peebles
 1887 Erskine, Rear-Admiral James E., of Venlaw, Peebles
 1882 FARQUHSON, Sir James R., of Spitalhaugh, Bart., West Linton
 1906 Forrest, Allan, Whitfield, West Linton
 1906 Gairns, Alex. C., Cloverhill, Broughton
 1905 Galbraith, Adam, Rachan Mill, Broughton
 1881 GRISON-CARMICHAEL, Sir T. D., of Skirling, Bart., Malleny House, Salerno
 1876 Gordon, Charles, of Hallmyre, Lamancha
 1884 Gracie, Charles A., Easter Haprew, Stobo
 1905†HAY, Sir Duncan E., of Haystoun, Bart., Kingmeadows, Peebles
 1906 Inglis, Geo. C., V.S., Tantar House
 1894 Jack, George, Netherwood, Dolphinton
 1905 Johnston, John C., V.S., Peebles
 1905 Laidlaw, David, Hallmyre, West Linton
 1905 Linton, Simon, jun., Posso, Peebles
 1907 Mackenzie, Kenneth, of Dolphinton (19 Ainslie Place, Edinburgh)
 1898 Marshall, H. B., of Rachan, Broughton
 1906 Martin, William, Dawyck Mill, Stobo

Admitted

- 1905 Masterton, Ebenezer B., Broughton Green, Broughton
 1885 Maxwell, James, Eddleston Bank, Eddleston
 1905 Mitchell, Andrew D., West Loch, Eddleston
 1906 Montgomery, Richard, Home Farm, Lamanacha
 1906 Paterson, Tom, Crookstone, Peebles
 1906 Paterson, Wm., Crookstone, Peebles
 1906 Paterson, Wm., Felton, Dolphinton, Peebleshire
 1898 Patrick, James, Mallingland, Peebles
 1907 Philipson, Hytton, of Stobo, Peeblesshire
 1898 Purdie, James G., Hamildean, Stobo
 1881 Ritchie, G. D., Chapelgill, Broughton
 1905 Ritchie, Wm. C., Lyne Farm, Stobo
 1906 Robertson, Jas. Morton, Portmore, Eddleston
 1898 Russell, William, Bonnington, Peebles
 1906 Somerville, John, of Portmore, Eddleston
 1906 Stewart, B., Darnhall Mains, Eddleston
 1851 Stewart, James, Scotston House, Dolphinton
 1880 Stodart, Thomas Tweedie, of Oliver, Broughton
 1890 Tennant, Sir Edward P., of The Glen, Bart., Innerleithen
 1886 Thorburn, M. G., of Glenormiston, Innerleithen
 1898*Thornburn, Sir Walter, of Glenbreck, Kerfield, Peebles
 1889 Thorburn, William, Craigerne, Peebles
 1905 Thorburn, Wm., Heathstanes, Tweedsmuir
 1906 Tudhope, B., Milkieston, Eddleston, Peebles
 1906 Tudhope, James, Nether Falls, Eddleston
 1898 Tudhope, J., Broughton Place, Broughton
 1898 Tudhope, William, Milkieston, Eddleston
 1905 Watson, John, Muirburn, Biggar, Peebles
 1906 Watson, Robert, South Park, Peebles
 1907 Weir, Thos., Robinsland, West Linton
 1878 Williamson, Miss Katharine Isabella, of Cardrona, Peebles
 1884 Wilson, James, West Mains, Dolphinton
 1880 Woddrop, W. A., of Garvald, Dolphinton

ROXBURGH.

- 1898 Anderson, Robert B., of Glenburn Hall, Jedburgh
 1862 Arras, Walter, Beechwood, Melrose
 1884 Ballantyne, David, Shaws, Newcastleton
 1898 Ballantyne, R., Ormiston House, Hawick
 1860 Ballingall, George, Clarilaw, St Boswells
 1898 Balmer, William, Smallholm House, Kelso
 1906 Batters, Walter P., Rawflat, Ancrum
 1886 Beattie, John, Braidie, Newcastleton
 1906 Bell, David, Frimside, Kelso
 1898 Bell, John A., Ploughlands, St Boswells
 1885 Bell, William Scott, yr. of Woll, Hawick
 1906 Beveridge, Henry E., Kerchesters, Sprounston
 1901 Blinkhorn, John F., Stitches, Hawick
 1889 Boyd, Andrew, F.R.C.V.S., Melrose
 1863 Boyd, W. B., of Faldonside, Melrose

Admitted

- 1894 Brook, Hugh B. P., Faughhill, St Boswells
 1898 Brotherstone, Andrew, Muirdean, Kelso
 1880 Brown, J., Hundalee, Jedburgh
 1884 Brown, James, Copland, Ancrum
 1906 Brown, William, Kersmains, Roxburgh
 1906 Brown, William, Auction Market Co., Ltd., Biggar
 1908 Brownlee, John, Smallholm Mains, Kelso
 1889 Bruce, John, Easter Langlea, Galashiels
 1908 Bruce, Robert, Sunnyside, Jedburgh
 1866 Brunton, James, Broomlands, Kelso
 1882 Brydon, Adam, Netherbarns, Galashiels
 1905 Campbell, P. F., Estate Office, Martoun, St Boswells
 1871 Caverhill, John, Jedneuk, Jedburgh
 1867 Charlton, M., jun., Brownceanlaws, Jedburgh
 1906 Clark, Geo. B., Marchcleugh, Kelso
 1897 Cochran, Wm. E. A., Roansgreen, Newcastleton
 1898 Cree, William, Whiteale, St Boswells
 1873 Croall, John, Coach Works, Kelso
 1884 Cunningham, Robt., Branxholme House, Hawick
 1906 Curle, Robt. Andrew, of Overwells, Jedburgh
 1888†DALKEITH, The Earl of, Eildon Hall, St Boswells
 1906 Davidson, Alexander, jun., Whitton, Kelso
 1898 Davidson, Andrew, Auctioneer, Melrose
 1899 Davidson, Gilbert, Barnhills, Minto, Hawick
 1898 Davidson, Mark Turnbull, Melrose
 1898 Davidson, Richard, Swinnie, Jedburgh
 1863 Dodd, James, Hundalee Cottage, Jedburgh
 1904 Douglas, Allan M., Spots Mains, Kelso
 1898 Douglas, Andrew, Riccalton, Jedburgh
 1898 Douglas, Captain Edward Palmer, of Cavers, Hawick
 1889 Douglas, Francis, Caverton, Roxburgh
 1871 Douglas, George, Upper Hindhope, Jedburgh
 1867 Douglas, George Sholto, 5 Abbotsford Grove, Kelso
 1906 Douglas, John, Ancrum West Mains, Ancrum
 1906 Douglas, John, Swinside Townfoot, Jedburgh
 1906 Douglas, Thos., Bulsetownhead, Hawick
 1906 Douglas, Walter S., Hindhope, Jedburgh
 1898 Dove, George, Whitehouse, St Boswells
 1898 Dunn, David, Roxburgh Mains, Roxburgh
 1876 Dunn, John, Parkside, Kelso
 1880 Elliot, James, of Flex, Hawick
 1898 Elliot, John, Hindhope, Jedburgh
 1884 Elliot, Robert, Hermitage, Newcastleton
 1874 Elliot, Robert Henry, of Clifton Park, Kelso
 1906 Elliot, Robt. T., Chatto, Kelso
 1893 Elliot, Thomas, Attonburn, Kelso
 1905 Elliot, Thomas, Kirrdean, Newcastleton
 1893 Elliot, Thomas Robert Barnswell, yr. of Clifton Park, Kelso
 1907 Elliot, Walter, Kirrdean, Newcastleton
 1898 Elliot, Wm., Bulcherote, St Boswells
 1903 Elliot, Wm. Irving, Kirrdean, Newcastleton
 1906 Ewing, Ian Alastair, West Nisbet, Ancrum, Jedburgh
 1884 Fairbairn, J. J., of Fens, St Boswells
 1895 Fleming, Charles J. N., St Bede's, Melrose
 1905 Fleming, Hugh, Longnewton, St Boswells

Admitted

- 1884 Fleming, John, Roan, Newcastleton
 1893 Forsyth, Robert, New Smallholm, Kelso
 1906 Fraser, Charles, St Helens, Melrose
 1894 Goodfellow, A., High School, Kelso—
Free Life Member
 1899 Gowans, Major J., Kirkton House, Hawick
 1906 Greig, Major J. L., of Eccles, Kelso
 1884 Grierson, Robert, Whitechesters, Hawick
 1878 Grieve, C. J., of Rashiegrain, Branzholm Park, Hawick
 1907 Grieve, Chas. Walter, Branzholm Park, Hawick
 1907 Grieve, Robert, Branzholme Braes, Hawick
 1890 GRUFFITH, Sir Richard Waldie, of Hendersyde Park, Bart., Kelso
 1895 Haddon, Andrew, Honeyburn, Hawick
 1880 Haddon, Walter, Solicitor, Hawick
 1884 Hall, David, Larriston, Newcastleton
 1906 Hamilton, Gavin, Highridgehill, Kelso
 1897 Hart, Andrew D., The Platt, Kershopefoot, Carlisle
 1892 Hay, Athole S., of Marfield, Roxburgh
 1880 Henderson, Robert, Mount-hooly, Jedburgh
 1900 Hilson, Sydney, Solicitor, Jedburgh
 1862 Hobkirk, James, St Bede's, Melrose
 1901 Hogarth, James, Prior Bank, Kelso
 1898 Hogarth, John, Helton Mill, Kelso
 1895 Hogarth, William Gray, Linton, Bankhead, Kelso
 1898 Hogg, John, jun., Dalbiac Cottage, Kelso
 1898 Holliday, John, Dinlaybyre, Newcastleton
 1898 Home, J. H. Milne, Broomlands, Kelso—
Free Life Member
 1875 Howatson, J. L., Greenriver, Hawick
 1895 Hutcheson, William, Courthill, Kelso
 1889 Hutton, John, V.S., Kelso
 1907 Inglis, Wm., Kedsle, Earliston
 1907 Irvine, Chas. Sturrock, Seedsman, Jedburgh
 1906 Johnston, James S., Kersknowe, Kelso
 1887 Johnston, John S., Crailinghall, Jedburgh
 1889 Johnston, Wm. Lee, Oxnam Neuk, Jedburgh
 1890 KARR, Sir Harry Seton, of Kippielaw, St Boswells
 1896 Kennedy, William, Kinninghall, Hawick
 1890 Kidd, Henry, Lowood, Melrose
 1898 Laidlaw, James, Allars, Jedburgh
 1863 Laing, George, Tweedbank, Kelso
 1880 Laing, Thomas (Laing & Mather), Kelso
 1880 Laing, Walter, Kersheugh, Jedburgh
 1872 Laurie, Thomas, Ormiston Terrace, Melrose
 1899 Lunn, John, Upper Blainslie, Lander, Hawick
 1888 Macfarlane, James, Penchrise, Stobs, Hawick
 1898 M'Laren, P., Fairnington, Roxburgh
 1904 M'Tier, J. Cameron, Chapelhill, Hawick
 1906 Martin, Hugh A., Estate Office, Mellerstain, Kelso
 1893 Mather, R. V. (Laing & Mather), Kelso
 1880 Maxwell, John, Coachbuilder, Kelso
 1868 Mein, Ben., Roxburgh Barns, Roxburgh
 1892 Mein, James A. W., of Hunthill, Jedburgh
 1893 Minto, The Earl of, Minto House, Hawick
 1899 Mitchell, John Peace, Dryburgh Orchard, St Boswells

Admitted

- 1886 Moffat, James, Whitehaugh, Hawick
 1899 Monteath, George, Newtown, St Boswells
 1880 Muir, John, Kaeside, Melrose
 1883 Murray, John, of Wooplaw, Gala-shields
 1898 Murray, Wm. R., Charterhouse, Kelso
 1860 Ogilvie, George, Holefield, Kelso
 1903 Oliver, Andrew, Stodrig, Kelso
 1886 Oliver, Andrew R., Thornwood, Hawick
 1906 Oliver, Douglas, Hassendean Bank, Hawick
 1889 Oliver, Geo. Lindsay, 13 Wilton Hill, Hawick
 1807 Oliver, John, Lynwood, Hawick
 1853 Oliver, Robert, of Blakelaw, Lochside, Kelso
 1873 Oliver, William M., Whitriggs House, Hawick
 1898 Paton, E. Douglas, Broomhill, Melrose
 1889 Paton, Major James, of Crailing, Jedburgh
 1899 Pearson, Thos. Smith, of Otterburn, Morebattle, Kelso
 1863*† Polwarth, Right Hon. Lord, Martoun, St Boswells
 1889 Polwarth, The Hon. the Master of, Humber House, Upper Keith
 1898 Porteous, Ronald, Newtown, St Boswells
 1895 Price, W. M., Minto Estates Office, Hawick
 1884 Pringle, John, Nisbet, Ancrum
 1893 Purdon, Finlay, Border Club, Hawick
 1906 Purves, Wm., Kersquarier, Sprouston, Kelso
 1898 Rae, James William, Colmsliehill, Gala-shields
 1853 Rawdin, Joseph, Chemist, Jedburgh
 1872 Renwick, John, Nurseryman, Melrose
 1894 Ritchie, D. N., of The Holmes, St Boswells
 1898 Robertson, James, Morebattle Tofts, Kelso
 1898 Robertson, John, Ladyrig, Roxburgh
 1898 Robertson, R. A., Yetholm Mains, Yetholm, Kelso
 1904 Roxburgh, 'The Duke' of, Floors Castle, Kelso
 1901 Russell, George Alex., Glen Douglas, Jedburgh
 1906 Rutherford, Henry, of Fairnington, Roxburgh
 1903 Rutherford, Walter, Crailing Tofts, Roxburgh
 1884 Rutherford, W. E. Oliver, of Edgerston, Jedburgh
 1888 Scott, Hon. J. C. Maxwell, of Abbotsford, Melrose
 1898 Scott, Arthur Francis, of Howcleuch, Langlee, Jedburgh
 1884 Scott, Chas., Milsington, Hawick
 1898 Scott, James, Softlaw, East Mains, Kelso
 1906 Scott, James, Troneyhill, Ancrum
 1894 Scott, John, Borthaugh, Hawick
 1898 Scott, John, Ploughlands, Ancrum
 1906 Scott, John, Frogden, Kelso
 1901 Scott, John Alex., Mossburnford, Jedburgh
 1906 Scott, John M., Cessford, Kelso
 1889 Scott, John Robson, of Newton, Jedburgh
 1898 Scott, Robert C., Graden, Kelso
 1890 Scott, Thos., Little Fordel, Melrose
 1899 Scott, T. W. Robson, Letham, Jedburgh

Admitted

- 1903 Scott, Walter, Drinkstone, Hawick
 1906 Scott, Wm. F., Spylaw, Kelso
 1882 Scott-Makdougall, H. J. B., of Makerston, Kelso
 1906 Shiell, Rutherford, Hassendean, Hawick
 1899 Simson, Alexander Tudhope, Brewer, Melrose
 1899 Simson, Thomas, Lilly Bank, Jedburgh
 1883 Sinclair, C. G., Grahamslaw, Kelso
 1879 Smith, James, Kelso
 1898 Smith, James, St Boswells Bank, St Boswells
 1880 Smith, John, Galalaw, Kelso
 1883 Smith, J. R. C., Mowhaugh, Kelso—*Free Life Member*
 1881 Smith, R. C., Ormiston, Roxburgh
 1887 Smith, Thomas A., Bedrule, Jedburgh
 1906 Smith, T. D. Crichton, Provost of Kelso
 1887 Sprot, Lieut.-General John, of Riddell, Lilliesleaf
 1907 Sprot, Lieut. J. M. F. (Royal Scots Greys), Riddell, Lilliesleaf
 1897 Stevenson, Allan, Commercial Bank, Kelso
 1906 Starling, Wm., Darlingfield, Kelso
 1898 STRATHEDEN and CAMPBELL, Lord, Hartrigg, Jedburgh
 1906 Taft, David W. B., W.S., Edenside, Kelso
 1898 Taylor, William, Ashybank, Hawick
 1897 Teacher, Donald M., Gatehousecote, Hawick
 1884 Templeton, Matthew, Sandyknowe, Kelso
 1867 Thomson, A., of Mainhill, St Boswells
 1904 Thomson, And. F., of Cowbog, Morebattle, Kelso
 1899 Thomson, Thomas, Hopton, Ancrum, Jedburgh
 1897 Thomson, W. H., Over Roxburgh, Roxburgh
 1898 Tod, Wm., Blinkbonny, Kelso
 1899 Tully, Alex. B., V.S., Kelso
 1863 Turnbull, J., Eastfield, Kelso
 1899 Turnbull, James, 8 Bridge Street, Kelso
 1898 Turnbull, John, Sunlawshill, Kelso
 1889 Turnbull, Mark, Melrose
 1906 Turnbull, Walter, Hawickmill, Hawick
 1863 Turnbull, W. Geo., Spittal, Jedburgh
 1898 Turner, Francis R., Upper Nisbet, Ancrum
 1872 Usher, Thomas, Courthill, Hawick
 1900 Veitch, Arch., Castle Salesman, Jedburgh
 1880 Waddell, Alex., of Palace, Jedburgh
 1898 Walker, Alex., Chemist, Jedburgh
 1903 Watson, G. Scott, Easter Softlaw, Kelso
 1898 Watson, John, Grestridge Hall, Kelso
 1889 Watson, T. Lindsay, Briery Yards, Hawick
 1886 Watson, Capt. W. S., of Burnhead, Hawick
 1898 Wilson, Chas. John, Deanfield, Hawick
 1899 Young, William, Halkburn, Galashiels
 1864 Younger, Wm., Ravenswood, Melrose

SELKIRK.**Admitted**

- 1866 Anderson, B. T. G., of Tushielaw, Selkirk
 1889 Anderson, T. Scott, Ettrick Shaws, Selkirk
 1906 Barrie, Walter, Sundhope, Yarrow, Selkirk
 1863 Brown, Adam, Hyndhope, Selkirk
 1899 Burns, James (George Burns & Sons, Engineers), Galashiels
 1906 Calder, James, Craig Douglas, Selkirk
 1880 Cochran, A. L., of Kingsknowe, Galashiels
 1889 Connachie, Thomas D., V.S., Galashiels
 1901 Denny, William, Caddonlee, Clovenfords
 1906 Dun, And., Laidlawstiel, Galashiels
 1900 Elliot, And. Stirling, Hollybush, Galashiels
 1869 Elliot, A. T., Newhall, Galashiels
 1889 Elliot, John, Meigle, Clovenfords
 1906 Elliot, Thomas, Blackhaugh, Clovenfords
 1906 Elliot, Walter, Newhall, Galashiels
 1878 Grieve, James Howden, Selkirk
 1895 Hall, Robert, Kiln Knowe, Galashiels
 1900 Hamilton, Jas., Philiphaugh Farm, Selkirk
 1900 Hogarth, James, Miller, Galashiels
 1895 Johnston, John, Chapelhope, Ettrick
 1878 Laidlaw, Robert, Rodono, Selkirk
 1878 Lang, Robert J., Broadmeadows, Selkirk
 1906 Lillie, George, Ladhope, Selkirk
 1878 Lindsay, John V., Whitehouse, Selkirk
 1901 Lindsay, William, South Common, Selkirk
 1896 Linton, Andrew, Oakwood, Selkirk
 1873 Linton, Simon, Oakwood, Selkirk
 1880 Mitchell, Thomas, Howford, Selkirk
 1884 Morton, Thomas, Torwoodlee, Galashiels
 1889 Noble, Robert, of Borthwickbrae, Hawick
 1897 Ovens, Wm. R., of Peel, Clovenfords
 1885 Plummer, Chas. H. S., of Sunderland Hall, Selkirk
 1906 Pott, Jas. Gideon, of Potburn, Ettrick, Selkirk
 1906 Pringle, J. Lewis, of Torwoodlee, Galashiels
 1906 Roberts, Alexander F., of Fairnalee, Selkirk
 1881 Rodger, George, Bridgelands, Selkirk
 1880† Scott, John, of Gala, Galashiels
 1881 Scott, John Corse, of Synton, Hawick
 1906 Somerville, Wm., Fairnalee, Selkirk
 1907 Stalker, Donald G., The Hall, Galashiels
 1896 Steedman, John, County Clerk, Selkirk
 1906 Steel, Samuel Strang, Philiphaugh, Selkirk
 1905 Steel, Wm. Stang, of Philiphaugh, Selkirk
 1880 Turnbull, James, The Glebe, Selkirk
 1898 Wilkie, John, 21 Island Street, Galashiels

ENGLAND.

Admitted

- 1899 Abram, Laurence, County School, Llanillo, So. Wales—*Free Life Member*
 1882 Ainslie, John, Milton Court Farm, Eastbourne, Sussex
 1902 Alder, Thomas Bogue, New Etal Grange, Cornhill-on-Tweed
 1855 Alexander, John, Moreton House, Cheltenham
 1900 Allison, Herbert W., c/o Mr Short, Home Farm, Ingestre, Stafford—*Free Life Member*
 1893 Allison, Hubert, Tickford Priory, Newport Pagnell, Bucks
 1878 ANCASTER, The Earl of, Normanton Park, Stamford
 1902 Anderson, George, 3 Spencer Place, Leeds
 1850 Anderson, Robert Hood, Devonshire Club, London
 1863 Angus, John, Whitefield, Morpeth
 1895 Annand, John F., Agricultural College, Newcastle-on-Tyne—*Free Life Member*
 1896 Anstruther, Arthur W., Hillside, Hook Heath, Woking
 1864 Archer, Thomas, Woodlands Laurie, P.R., Sydenham, London
 1897 Ashby, S. F., 110 Liverpool Road, Birkdale, Southport—*Free Life Member*
 1878 Ashdown, A. H., Uppington, Wellington, Salop—*Free Life Member*
 1883 Aveling, T. L., Rochester
 1901 Bainbridge, Thomas E., Eshott Hall, Felton, Northumberland
 1900 Baird, Colonel E. W., Exning House, Newmarket
 1875 Baird, Hugh, Woodleigh, The Park, Cheltenham
 1890 Bamford, Henry, jun., Leighton Iron Works, Uttoxeter
 1899 Barber, Robert, African Chambers, 19 Oldhall Street, Liverpool
 1900 Barclay, John, Junior Constitutional Club, Piccadilly, London
 1895 Barford, James G. (of Barford and Parkins), Peterboro
 1880 Barrett, Robert Bell, Skipton Castle, Skipton
 1896 Barron, James, Heathcote Farm, Warwick—*Free Life Member*
 1899 Beattie, James C., Alkton House, Wigton, Cumberland
 1898 Bell, J. P. F., Fulforth, Witton Gilbert, Durham
 1871 Bell, William, Bridge House, 181 Queen Victoria Street, London, E.C.
 1898 Bell, William, Ratcheugh, Alnwick
 1884 Benson, R. A., Duchy of Cornwall Office, Liskeard, Cornwall—*Free Life Member*
 1900 Bickerton, Henry N., National Gas Engine Co., Ltd., Ashton-under-Lyne
 1882 Biggs, Thomas, Great Dover Street, London
 1885 Birch, W. de Hoghton, Hoghton Estate Office, Walton Hall, Preston—*Free Life Member*
 1902 Blackshaw, John F., Midland Daily School, Kingston, Kegworth

Admitted

- 1898 Blackstone, Edward Christopher (Blackstone & Co., Limited), Stamford
 1875 Blackwood, Alex., Estate Office, Leadenhham, Lincoln
 1900 Blass, Ernest W. H., Greenhill, Cheadle, Staffordshire
 1901 Blake, Charles E., 36 Worship Street, London, E.C.
 1883 Bonallo, W. C., Estate Office, Locko Park, near Derby
 1858 Borthwick, W. H., East Kyle, Beal, Northumberland
 1875 Brothie, G., Grinkle, Loftus, R.S.O.
 1877 Brown, John, Morden Farm, Hertford
 1873 Browne, Colville, M.R.A.C., Hungarton, nr. Leicester—*Free Life Member*
 1884 Brydon, John, Seed Merchant, Darlington
 1873 Brydon, Robert, The Dene, Seaham Harbour—*Free Life Member*
 1875 Bullock, Matt., 48 Prince's Gate, London, S.W.
 1896 Burkitt, William, Grange Hill, Bishop Auckland—*Free Life Member*
 1903 Burlingame, C. H. (International Harvester Co., Ltd.), 115 Southwark Street, London, S.E.
 1865 Burns, James Cleland, 6 Airle Gardens, London, W.
 1877 Burr, John M., 37 London Road, Chelmsford, Essex
 1901 Burr, J. M., Oaklands Estate Office, St Albans, Herts
 1894 Burrell, Charles, Thetford, Norfolk
 1900 Burton, John H., County Education Office, Weston-super-Mare—*Free Life Member*
 1878 Cameron, H. E., 42 Cromwell Avenue, Highgate, London
 1863 Campbell, A. H., Cornwall Gardens, London, S.W.
 1895 Campbell, Henry A., 97 Eaton Square, London, S.W.
 1882 Campbell, Rear-Admiral H. J. Fletcher, C.B., Beech Lodge, Wimbledon Common
 1895 Campbell-Gilmour, T., Cummersdale, Carlisle
 1894 CARLISLE, Countess of, Naworth, Brampton, Cumberland
 1878 Carr, Robert, Grindon, Norham, Northumberland—*Free Life Member*
 1898 Carr-Ellison, J. S., 24 Sanderson Road, Jesmond, Newcastle-on-Tyne
 1887 Carrington, George, M.R.A.C., Missenden Abbey, Great Missenden, Bucks—*Free Life Member*
 1882 Carruthers, Joseph, 29 Victoria Road, Upper Norwood, London, S.E.
 1877† CECIL, Lord Arthur, The Mount, Lymington, Hants
 1884 Chambers, T. W., Causeway Head, Silloth, Carlisle
 1884 Clark, J. M., Featherstone Castle, Haltwhistle
 1873 Clark, Wm., 2 Victoria Embankment, Darlington

Admitted

- 1881 Clark, W. A., 12 Onslow Sq., London, S.W.
 1893 Clarke, Thomas, Eskmeals, Bootle, S.O., Cumberland
 1884 Clinton, H. E. Pelham, 1 Lion Place, Borthwick Hill, Bath—*Free Life Member*
 1899 Cole, James Thomson, Fell Court, Torquay—*Free Life Member*
 1896 Combe, J. Scarth, Broomhill Grange, Edwinstowe, Newark
 1903 Cooper, Sir George A., Bart., 26 Grosvenor Square, London
 1905 Cooper, Sir R. F., Bart., Shenstone Court, Lichfield
 1877 Corbett, T., Perseverance Iron Works, Shrewsbury
 1900 Coulter, Chas. M. (W. A. Wood, M. & R. M. Co.), 36 Worship Street, London, E.C.
 1891 Coward, T. A., c/o The Manager, London City and Midland Bank, Northallerton—*Free Life Member*
 1890 Crabtree, Henry, Moss House, Heywood—*Free Life Member*
 1875 Craig, H. V. Gibson, c/o W. Birch Reynardson, Ardwell House, Tetworth, Oxon.
 1882 Craig, Robert, Crondon Park, Billerician, Essex
 1860 Crawford, Daniel, Potterells Farm, Hatfield, Herts
 1898 Crawford, Lionel W., Kiveton Hall, Sheffield
 1903 Creighton, T. R. (Thos. Beay), Abbey Town, Carlisle
 1896 Crombie, Walter G., Junior Constitutional Club, Piccadilly, London, W.
 1898 Crossman, L. Morley, Goswick, Beal, R.S.O., Northumberland
 1876 Cruickshank, J. W., Coombe Head, Haslemere, Surrey
 1868 Cruickshank, Edward G., Shrublands, Grafton, Petworth, Sussex
 1898 Cryer, John, 182 Cliff Wood Mount, Bradford Road, Shipley Yorks—*Free Life Member*
 1882 Cunningham, T. D. S., Penally Abbey, Penally, R.S.O., South Wales
 1900 Curr, David, Bed House, Carlisle
 1906 Curr, James, Red House, Carlisle
 1896 Daine, Mrs (née Fraser), Rupert Farm, Huyton, Liverpool—*Free Life Member*
 1894 Daine, Herbert S., Woolfall Hall, Huyton, Liverpool—*Free Life Member*
 1895 Dallas, James, 8 Heworth Green, York
 1890 Davidson, William, Cattle Salesman, Cornhill-on-Tweed
 1906 Davidson, William, East Learmonth, Cornhill-on-Tweed
 1895 Davidson, William, Margam, Port Talbot, So. Wales—*Free Life Member*
 1887 Davies, Edward Smith, Seedgreen Park, Stourport, Worcestershire—*Free Life Member*
 1902 Davis, J. F., Osborne Piano Co., Ltd., 115 Southwark Street, London, S.E.
 1907 Dawkins, Chas. W., 54 & 55 Bunhill Row, London, E.C.
 1859 Dawson, J., Ivy House, Welshpool, Montgomeryshire
 1901 Dawson, Robert Alexander, St Mary's, Talacre, Prestatyn, N. Wales
 1886 Dickson, Thos. A., Estate Office, Overstone Park, Northampton—*Free Life Member*
 1895 Dixon, Albert Alex., Tanwood House, Chaddesley Corbett, near Kidderminster, Worcestershire—*Free Life Member*
 1895 Dobbie, Emilfus S., Trench, Troubridge, Kent

Admitted

- 1890 Dollar, T. A., V.S., 56 New Bond Street, London
 1871 Donne, Henry, Leek Wootton, Warwick
 1885 Douglas, Wm., Baltic Works, Wharf, Putney, London, S.W.
 1862½ Dudgeon, John Scott, Sevenoaks, Tunbridge
 1879 Duncan, John, Manor Farm, Middleton, King's Lynn
 1882 Duncan, John W., Coldrey, Bentley, Farnham, Surrey
 1871 Eden, Henley, Woodstock, Ascot, Berks
 1895 Egginton, Arthur, 11 St Michael's Road, Bedford
 1875 ELLESMERE, The Right Hon. the Earl of, Worsley Hall, Manchester
 1878 Elliot, Prof. Thos. J., The Pebbles, Glebe Lands, Hunstanton, Norfolk—*Free Life Member*
 1882 Enzor, Thos. H., 54 South Street, Dorchester—*Free Life Member*
 1882 Esson, Robert, Zenda Cottage, Ashtead, Surrey
 1902 Eve, H. Trustrum, F.S.I., 2 St Paul's Square, Bedford
 1900 Fairbairn, John, Walker Heads and Middle Quarter, Norham-on-Tweed
 1887 Farquharson, Alexander, Copperfield, Clifton-on-Teme, Worcestershire
 1894 Fielding, J. B., Downing, Holywell, North Wales
 1870 Finlay, Kirkman, 6 Marlborough Buildings, Bath
 1897 Fitzherbert, W., Nettleworth Manor, Mansfield, Notts
 1891 Fleet, Wilfrid J., Imatra, King's Road, Bournemouth—*Free Life Member*
 1864 Fleming, James, Henney, Barway, Ely, Cambs
 1908 Fleming, James, Redkirk, Rigg, Carlisle
 1901 Foden, Edwin, Elworth Works, Sandbach
 1891 Forbes, A. C., Armstrong College, Newcastle-on-Tyne—*Free Life Member*
 1906 Fox-Brookbank, A. H., The Croft, Kirkcanton, Cumberland
 1903 Freeman, Daniel Linford, Home Farm, Aughton, Liverpool
 1888 Galashan, Alfred, St Swithin's, Barking-side, Ilford, Essex
 1892 Gascoigne, Major R. F. T., Letheron Hall, Aberford, Leeds
 1870 Gibson, J. G., 1 Vanburgh Park, Blackheath, London
 1889 Gilchrist, D. A., Armstrong College, Newcastle-on-Tyne—*Free Life Member*
 1882 Gilkes, Gilbert, Canal Iron Works, Kendal
 1903 Gillanders, A. T., Forester, Alnwick Castle, Alnwick
 1878 Glendinning, G. P., 29 Collingham Road, London, S.W.
 1873 Goddard, H. R., Hammet Street, Taunton, Somerset—*Free Life Member*
 1903 Gooch, Sir Thomas V. S., Bart., Benacre Hall, Wrentham, Suffolk
 1893 Gordon, A. A., The Croft, Farningham, Kent
 1875 Gordon, W. R. G., Barsham Lodge, Sandown, Isle of Wight
 1866 Gough, William, Land Agent, Wykeham
 1881 Gover, L. D., Clay Point, Finsching, Falmouth—*Free Life Member*
 1886 Gow, George, Tregothnan Office, Truro
 1901 Gower, Cecil Leveson, Blotchingly, Surrey
 1881 Graham, George, Moat Farm, Much Hadham, Herts
 1873 Graham, Robert G., Beanslands Park, Irthington, *vid* Crosby-on-Eden, Carlisle

Admitted

- 1888 Graham, William, Eden Grove, Kirkby-thore, Penrith
 1882 Grahame, Thomas, 26 Granard Road, Balham, London, S.W.
 1890 Granger, John, Oddington, Stow-on-the-Wold
 1887 Grant, Henry O., of Grant, Caledonian Club, Charles Street, London, S.W.
 1897 Gray, John, New Club, Cheltenham
 1896 Greenwood, Thomas P., M.D., B.Sc., County Asylum, Radcliffe, Nottingham—*Free Life Member*
 1899 Grieve, Wm. O., Amerasia Law, Belford, Northumberland
 1892 Griffen, Hugh Reid, 1 Finsbury Square, London, E.C.
 1897 Guthrie, F. H., B.Sc., c/o Dr Guthrie, 7 Church Road, Tunbridge Wells—*Free Life Member*
 1898 Gwillam, Robert, Agricultural College, Aspatia—*Free Life Member*
 1898 Hacking, Thomas, Agricultural School, Bijoda Hall, Dunmow, Essex—*Free Life Member*
 1890 Hadden, Gavin, Levant Lodge, Earls Croome, Worcester
 1864 Halkett, Lieut.-Col. J. C., Junior Carlton Club, London
 1877 Hall, T. F., Billiter Buildings, Billiter Street, London, E.C.
 1867 Hallen, Vety. Lieut.-Col., F.R.S.E., F.R.C.S.E., Pebworth Fields, Stratford-on-Avon
 1888 Hamilton, H. W., Willey Park Estate Office, Dawley, Salop—*Free Life Member*
 1888 Handley, John, Greenhead, Milnthorpe
 1884 Hardy, C. W. L., Gittasham, Honiton—
 1897 Harrison, George, The Hall, Gainford, Darlington
 1896 Harrison, John, Chataworth House, Carlisle
 1875 Haughton, W. H., Highlands, Gt. Bedford, St Neots
 1887 Haviland, W. A., Brightling Place, Brightling, Sussex
 1888 Hayward, C. P., Beaumont Manor, Lincoln
 1878 Henderson, John, Kingsmere, Harpenden, Herts—*Free Life Member*
 1854 Henderson, Thos., Hastings Cottage, Seaton Delaval, Newcastle-on-Tyne
 1881 Henderson, W., East Ellington, Haydon Bridge, Carlisle—*Free Life Member*
 1896 Hewison, Robert, Agricultural College, Aspatia—*Free Life Member*
 1899 Hewitt, Thomas G., M.R.C.V.S., 22 Dorset Street, Baker St, London, W.
 1878 Hill, A. J., St Keverne, Harrow-on-the-Hill—*Free Life Member*
 1894 Hill, Henry F., Agricultural College, Aspatia—*Free Life Member*
 1897 Hill, J. Smith, Principal, Agricultural College, Aspatia
 1902 Hobbs, James T., Maisey Hampton, Fairford, Gloucestershire
 1878 Holliday, Jonathan, Kirkhampton, Carlisle
 1878 Holliday, Wm., North View, Kirkhampton, Carlisle
 1882 Holm, Alex., Lawrence's Farm, Buckland, Betchworth, Surrey
 1886 Hooper, C. H., Church House, Shoreham, Sevenoaks, Kent—*Free Life Member*
 1878 Hope, John W., John Knight & Sons, Ltd., The Royal Primrose Soap Works, Silvertown, London, E.
 1878 Hornsby, J., Spittalgate Ironworks, Grantham

Admitted

- 1908 Howard, Henry Charles, Greystoke Castle, Penrith
 1898 Howard, J. H., Britannia Iron Works, Bedford
 1879 Hunt, A. E. Brooke, Merton Grange, Slough, Bucks—*Free Life Member*
 1898 Hunter, Chas. M., Wemmergill, Middleton-in-Teesdale
 1895 Hurley, George, County Technical Office, Stafford—*Free Life Member*
 1888 Hutchinson, Alan, 30 Church Street, Durham
 1892 Inglis, A., Estate Office, Howcaple Cottage, Ross-on-Wye, Herefordshire—*Free Life Member*
 1888 Inman, A. H., care of Glyn, Mills, Currie, & Co., 67 Lombard Street, London, E.C.—*Free Life Member*
 1895 Irving, John, Mossband, Rockcliffe, Carlisle
 1893 Irwin, Colonel T. A., Lynehow, Carlisle
 1899 Jefferson, J., Peel Hall, Chester
 1899 Johnstone, Wentworth Hope, Polebrook, Eidenbridge, Kent
 1898 Jones, C. B., Durham College of Science, Newcastle-on-Tyne—*Free Life Member*
 1876 Keith, Lieut.-Col. Jas., Capel Hall, Frimley, Ipswich
 1894 Kennaway, David, The Farm, Cramlington, Northumberland
 1875 Kennedy, W., Lewes and County Club, Lewes—*Free Life Member*
 1888 Kenyon, J. W., Cecily Hill, Cirencester
 1889 Kerr, James, Ashford, Kent
 1902 Kerr, John, Loudwater, Rickmansworth, Herts
 1874 Kidd, H., F.R.C.V.S., Exmouth, Devon
 1894 Laidlaw, Percy O., Stonecroft, Fourstones, R.S.O.
 1881 Lang, Hugh, Brackley, Northamptonshire
 1864 Latta, Matthew Rodger, Redbury, Ardleigh, Essex
 1878 Leggat, Alex., Mill Place Farm, East Grinstead, Sussex
 1889 Leishman, William, of Broomrigg, 52 Noel Street, Colebrooke Row, Islington, London
 1875 Lightfoot, H. Le Blanc, Corpus Christi College, Oxford
 1901 Lindow, Mark Burns, Ingwell, Moor Row, Cumberland
 1891 Lister, Joseph, Fern Cottage, Great Broughton, Cockerham, Cumberland—*Free Life Member*
 1885 Lockhart, Peter, Estates Office, Corby Castle, Carlisle
 1885 LONDONBERRY, Most Noble the Marquis of, K.G., Seaham Hall, Seaham Harbour
 1896 Long, Right Hon. Walter H., M.P., Rood Ashton, Trowbridge
 1881 Lonsdale, Claud, Rose Hill, Carlisle
 1885 Loves, Sir Massey, Bart., 28 Grosvenor Gardens, London
 1889 Lowson, J. G. F., Snitterfield House, Stratford-on-Avon
 1888 Lyon, George, Ingatstone, Essex
 1878 McConnell, P., Northwycke, Southminster, Essex—*Free Life Member*
 1903 Macconochie, A. W., Westbourne Street, London
 1901 M'Conachie, Geo., 1 St Thomas Crescent, Newcastle-on-Tyne
 1878 M'Cracken, W., Grewe—*Free Life Member*
 1898 M'Creath, James, West Cornwall Creamery, Lelant, R.S.O., Cornwall—*Free Life Member*
 1891 Macdonald, Charles, 'The Field' Office, Breams Buildings, London, E.C.

Admitted

- 1898 M'Dougall, James T., F.E.S., Dunollie, Blackheath, London.
 1896 Macfie, R. A., Royal Colonial Institute, Northumberland Avenue, London, W.O.
 1879 M'Gregor, Alex., Leigh, Lancashire
 1900 Macintyre, John J., 52 Fielding Road, Bedford Park, Chiswick, London, W.
 1875 Mackay, Thomas, Westwood, Coventry
 1898 Mackay, William, Greenhill Farm, Kilmerton, Bath
 1898 Mackenna, Fergus, New Barns, Edenbridge, Kent
 1897 Mackenzie, W. A., Estate Office, West Dean, Chichester
 1874 M'Kerrow, A., Bradshaw House, Bradshaw, Halifax, Yorks
 1871 M'Laren, James, 26 Bernard Street, Russell Square, London, W.O.
 1880 M'Laren, John, Hunslet, Leeds
 1865 M'Lennan, Donald, Radnor Hall, Elstree, Herts
 1883 M'Leod, J. M., 2 Hilldrop Road, Camden Road, London, N.
 1870 M'Monies, J., Coombelands, Addlestone, Surrey
 1870 M'Naughton, D., 79 Mark Lane, London, E.C.
 1907 MacWhirter, James J., 14 Chesterfield Gardens, Hampstead, London.
 1875 Maddison, H., The Lindens, Darlington
 1884 Malcolm, John, M.R.C.V.S., Birmingham—*Free Life Member*
 1880 Mangin, W. Nangreave, Preston, Chathill
 1906 Mann, James H., Pepper Road Works, Leeds
 1882 Mann, Robert J., Braighall Fields, Whitechurch, Shropshire
 1905 Marsden, H. B., Soho Foundry, Leeds
 1883 Marshall, James, Gainsborough
 1901 Marshall, James M.L., 29 Queensgate Gardens, London, S.W.
 1870 MAXWELL, Sir John B. Heron, Bart., Junior Carlton Club, London, S.W.
 1894 Matkilejohn, D. W., Wyndyard Park, Stockton-on-Tees
 1891 Menzies, Robert, Merton, Thetford
 1889 Middleton, T. H., Board of Agriculture, 4 Whitehall Place, London, S.W.—*Free Life Member*
 1899 Miller, John, Brookfield, Great Stukeley, Huntingdon
 1898 Miller, John M., Milton Court, Polegate, Sussex
 1877 Millican, J., Holly Bush, Kirkbampton, Carlisle
 1901 Min, George P., Minholme, Chester
 1900 Mirrlees, Arthur, Checquer House, Ranby, Bedford
 1873 Mitchell, John, 6 Clarendon Square, Leamington Spa
 1861 MONTAGU of Beaulieu, Lord, Palace House, Beaulieu, Southampton
 1903 Montgomery, Hugh, 8 Fenwick Street, Liverpool
 1846 Montgomery, John H., 5 Mount Street, London
 1878 Moubray, J. M., Sutton Iford, Lewes, Sussex
 1880 Moulit, John, Royal Buildings, Newcastle-on-Tyne
 1877 Mounsey, Wm. R. Lowther, Newton, Penrith
 1883 Muir, James, Rubers Law, West-by-fleet, Surrey—*Free Life Member*
 1882 Muir, John G., Farmingwoods Hall, Thrapston, Northants
 1886 Munro, J. C., M.F.H., Mancetter Lodge, Atherstone, England
 1895 Murray, James, of Traquhair, Manchester and Salford Bank, Manchester

Admitted

- 1891 Murray, John, B.Sc., Belle Vue, Beeston, Notts—*Free Life Member*
 1884 Murray, W. J., Bradford House, Belbroughton, Stourbridge
 1896 Ness, John, c/o R. Errington, Victoria Mills, Sunderland
 1899 Newton, Thos., The Bent, Warburton, Warrington—*Free Life Member*
 1872 Newton, T. H. G., Barrels Park, Henley-in-Arden, Birmingham
 1900 Nicholson, Edward Henry, Col. 4th Notts V.B. Sherwood Foresters, Newark-on-Trent
 1882 Nickels, John Tetley, The Day House, Shrewsbury
 1898 Nisbet, Robt., Lower Haddon, Bampton, Oxon.
 1901 Nixon, W., Iwerne Estate, Blandford, Dorsetshire
 1880 Norman, William, Sattenham, Milford, Godalming, Surrey—*Free Life Member*
 1879 North, G. F., Strathfieldsaye, Mortimer, R.S.O., Berks
 1853 Ogilvie, Wm. R., West Ward Cottage, Thursby, Carlisle
 1874 Ogilvy, John F., 13 Collingham Gardens, London, S.W.
 1872 Oliphant, L. J., Turf Club, Piccadilly, London, W.
 1887 Orde, Colin R. Campbell, Ravendale, Godalming, Surrey
 1906 Owen, Philip, Newmarket House, Gosforth, Newcastle-on-Tyne
 1903 Page, Herbert, Hertford
 1894 Parkin-Moore, Wm., Whitehall, Mealsgate, Carlisle
 1894 Paterson, John W., Herne Poplar, Toddington, Beds
 1857 Paton, A., Norwood, Sydenham, London
 1906 Peacock, John T., Lownewport Farm, Silksworth, Sunderland
 1897 Peet, John O., B.Sc., Shirehall, Hereford—*Free Life Member*
 1888 Perkins, W. F., M.R.A.C., Boldre Bridge House, nr. Lymington—*Free Life Member*
 1905 Peter, James, Berkeley Castle Estate Office, Berkeley
 1905 Peter, James A., Brown's Mill Farm, Berkeley
 1889 Pilkington, Claude M., Wollaton, Nottingham
 1884 Pitcairn, D. D., 9 Lebanon Parade, Twickenham, Middlesex
 1885 Pollock, Thos., Manor House, Nettlebed, Henley-on-Thames
 1898 Powell, J. E., Cambrian Iron Works, Wrexham
 1907 Prior, C. L. Prior, Grimblethorpe Hall, Lincoln
 1897 Proffit, George W., B.Sc., Estate Office, Charborough Park, Wareham, Dorset
 1877 Pudney, Robert L., Winscombe, Somerset—*Free Life Member*
 1889 Purefoy, Captain E. B., The White House, Buckingham—*Free Life Member*
 1883 Quibell, W. O., Highfield House, Newark
 1901 Babagliati, Duncan S., 1 St Paul's Road, Bradford—*Free Life Member*
 1870 Ralston, A. R., Mill Closs, Catterick Bridge, Catterick, Yorkshire
 1891 Ramsay, Hon. Chas. Maule, Carlton Club, Pall Mall, London, W.
 1892 Rand, John, Westnewton, Kirknewton, Alnwick
 1907 Ransome, Bertram C., Orwell Works, Ipswich
 1870 Rawlins, John D., 44 Clarence Road, Birkdale, Southport

Admitted

- 1906 Reed, T. Curwen, Hyde Farm, Stroud, Glos
 1906 Remington, J. Stewart, Aynsme, Grange-over-Sands, Lanes
 1882 Rennie, James, Bowesfield Farm, Stockton-on-Tees
 1906 Ride, Henry E. H., Dane Court, Dover
 1878 Richardson, R. A., 128 Shiel Road, Newsham Park, Liverpool
 1874 Richardson, George W., Landour, The Shrubbery, Weston-super-Mare
 1888 Richmond, Jas. G., Globe Works, Southall Street, Manchester
 1905 Rickerby, Joseph, 87 Botohergate, Carlisle
 1880 Riddle, Andrew, Yeavinger, Wooler
 1899 Ridley, Matthew A., Hawkhope, Falstone, Northumberland
 1852 Rintoul, Chas., Strawberry Hall, Buxted, Sussex
 1886 Robertson, Charles T. A., Little Horringer Hall, Bury St Edmunds—*Free Life Member*, 1888
 1864 Robertson, D. G., Homewood, 8 West Terrace, Eastbourne
 1900 Robertson, John, Board of Agriculture, 11 Whitehall Place, London, S.W.
 1901 Robertson, John G., Croxton House, Lillingston Road, Leamington Spa
 1900 Robinson, J. F., 17 Victoria Street, Westminster, London
 1878 Robinson, Thos., Cargo, Carlisle
 1884 Robson, Jacob, Byrness, Otterburn
 1873 Rome, Thos., Glebe Cottage, Goring-on-Thames—*Free Life Member*
 1903 Rootham, Fred. F., Benacre Estate Office, Pyes Hall, Wrentham, Suffolk
 1879 Roscoe, Wm. C., Tilstock, Whitechurch, Shropshire
 1870 Ross, J., The Grove, Ravensglass, Carnforth
 1899 Routhead, A. J., Welton Lodge, Welton, Brough, E. Yorks
 1900 Rushton, John C., County Education Offices, Stafford—*Free Life Member*
 1871 Russell, James M., Strawberry Hall, Buxted, Sussex
 1897 Sallerthwaite, Ben. H., Castle Park, Lancaster
 1871 Salmond, D. S., 53 Coleraine Road, Blackheath, London, S.E.
 1888 Scott, Adam, Fawdon, Glanton, Northumberland
 1889 Scott, Alex., Whinfall Park, Penrith
 1898 Scott, Robert, Wyndham Hotel, Bootle, Liverpool
 1872 Selby, B. P., Pawston, Mindrum, Northumberland
 1906 Sellar, Gerard Craig, 75 Cromwell Road, London, S.W.
 1890 Sessions, Harold, Ifton Manor, nr. Newport, Mon.—*Free Life Member*
 1894 Seton, Robert S., The Yorkshire College, Leeds—*Free Life Member*
 1893 Shaw, Philip A., Hemmington Hall, Derby
 1903 Shephard-Walwyn, J. E., Estates Office, Corby Castle, Carlisle
 1901 Shiers, Geoffrey C., Lexden, Princess Road, Bournemouth, W.
 1882 Shirlaw, James, 14 North Lodge Terrace, Darlington
 1898 Shuttleworth, Alfred (Clayton & Shuttleworth), Lincoln
 1896 Sinclair, Jas., Editor 'Live Stock Journal,' 9 New Bridge St., London, E.C.
 1873 SINCCLAIR, The Right Hon. Lord, 55 Onslow Square, London, S.W.
 1886 Slater, And., Redhouse, Durrington, Salisbury

Admitted

- 1895 Smith, David Lister, Bierley Lane, Dudley Hill, Bradford, Yorks—*Free Life Member*
 1900 Smith, Fred., 115 Brook Street, Macclesfield—*Free Life Member*
 1904 Smith, George G., British Oil and Cake Mills, Ltd., Cleveland Street, Hull
 1872 Smith, Jas. F., Pasture House, Howick, Lesbury, Northumberland
 1878 Smith, Wm. Borthwick, C.E., M.R.A.C., "Goodrest," Emsworth, Hants—*Free Life Member*
 1892 Solomon, F. O., Dauntsey's Agricultural School, West Lavington, Devizes, Wilts—*Free Life Member*
 1881 Somerville, William, M.A., D.Sc., D.Ce., 121 Banbury Road, Oxford—*Free Life Member*, 1887
 1887 Stanhope, John Montague Spencer, Cannon Hall, Barnsley, Yorkshire
 1869 Statter, T., Stand Hall, Whitefield, Manchester
 1885 Steel, Alexander, Southend, Essex
 1898 Steel, John, Hampton Barns, Rochford, Essex
 1884 Stephen, H. C., Avenue House, Finchley, London
 1880 Stephenson, C., V.S., Sandford Villa, Newcastle
 1855 Stenart, Robert, 81 Friern Road, Dulwich, London, S.E.
 1899 Stewart, James, Sandbeck Park, Tickhill, Rotherham
 1853 Stewart, J. A. Shaw, 48 Chester Square, London, W.
 1868 Stewart, Neil P., Plas Lodwig, Bangor, North Wales
 1877 Stirling, A., 30 Eccleston Street, London, S.W.
 1898 Stirling, John, Gosford Grange, Shifnal, Shrops
 1906 Stockley, Wm. T., Rose Villa, Garswood, near Wigan—*Free Life Member*
 1898 Stockman, Stewart, M.R.C.V.S., Board of Agriculture, 4 Whitehall Place, London, S.W.
 1884 Stordy, Norman, Thurstonfield Tannery, Carlisle
 1905 Strawsen, George F., 71A Queen Victoria Street, London, E.C.
 1895 Sutton, Alfred, Bridekirk, Cockermouth
 1904 Sutton, Arthur Warwick, Seed Merchant, Reading
 1906 Sutton, Martin John, Seed Merchant, Reading
 1865 Swanwick, R., E.A.C. Farm, Cirencester
 1894 Taylor, James W., 79 Brook Road, Bootle, Liverpool
 1898 Taylor, William, Glen Alva House, Whitecrop Road, Hereford
 1891 Thomson, Duncan, Grand Courts, Rayne, Essex
 1888 Thompson, Henry, V.S., Aspatria
 1899 Thorley, Joe, Oakhill, High Barnet, Herts (of Joseph Thorley, Ltd., London)
 1894 Tipper, Charles J. E., 6 Beechwood, The Green, Kendal—*Free Life Member*
 1897 Tod, James A., Thirley Farm, Hackness, Scalby, R.S.O.
 1869 Todd, William, Belmont, 45 Higher Ardwick, Manchester
 1889 Topplin, John C., Musgrave Hall, Skelton, Penrith
 1896 Townshend, Joseph H., Fellougley, nr. Coventry—*Free Life Member*
 1889 Turner, Thos. Warner, Welbeck, Worksop, Notts
 1878 Twentyman, J. M., Hawkrigg House, Wigton, Cumberland

Admitted

- 1877 Unife, John, 291 Edgeware Road, London, W.
 1877 Vann, Sir H. R., of Hutton in the Forest, Bart., Penrith
 1878 Villiers, F. E., 18 Cadogan Square, London, S.W.
 1897 Wakerley, Fred., The Midland Agricultural and Dairy Institute, Kingston-on-Soar, Derby—*Free Life Member*
 1900 Wale, Bernard N., Brewwood, Stafford—*Free Life Member*
 1896 Walker, Frank F., South Hill, Southwell, Notts
 1862 Walker, John, "Maryfield," 19 St John's Road, Putney, London, S.W.
 1889 Walker, Thomas G., Symonds Hyde, Hatfield, Herts
 1873 Wall, Geo. Y., Durham—*Free Life Member*
 1882 Wallace, George, 11 Arundel Square, Barnsbury, London, N.
 1870 Wallace, Robert, 44 Nunhead Lane, Peckham Rye, London, S.E.
 1882 Wallace, R. Hedger, Glamorgan County Council Education Office, Westgate Street, Cardiff
 1898 Walters, J. Tudor (Mills & Co.), Granville Road, Leicester
 1878 Walton, G. E., Long Compton, Shipston-on-Stour—*Free Life Member*
 1894 Ward, Martin H., Col. Gamble's Estate Office, Corporation Street, St Helens, Lancashire—*Free Life Member*
 1883 Wardman, Robert, Warwick Bank House, Carlisle
 1896 Waters, Arthur, Coopersale, Epping, Essex
 1890 Waters, J. C. Dun, Plaish Hall, Church Streeton, Salop
 1896 Waterson, D. M., Lupton, Churston, S. Devon
 1868 Watt, James, Knowesfield, Carlisle
 1881 Weber, F. H., Rokeby, Joker's Green, Caversham, Oxon.—*Free Life Member*
 1897 Webster, Herbert, Morton House, Fence Houses
 1894 Wedderburn, Sir W., of Ballendean, Bart., Meredith, Gloucester
 1860 Welsh, Jn., Ivy Lodge, Greenhithe, Kent

Admitted

- 1891 White, W. E. C., Curridge, Mewbury—*Free Life Member*
 1894 Whittaker, John D., Oxford and Cambridge Club, Pall Mall, London, S.W.—*Free Life Member*
 1899 Whyte, John D. B., Elveden Hall, Suffolk
 1900 Wigram, Oswald L., Nord Vue, Armathwaite, Cumberland
 1898 Williams, David D., University College of Wales, Aberystwyth—*Free Life Member*
 1881 Williams, Professor W. O., Veterinary Department, University, Liverpool
 1890 Williamson, Captain Cecil Hedworth, Home Lea, Box, Wilts
 1854 Willis, T., Manor House, Carperby, Bedale
 1899 Wilson, John, Edenhall, Langwathby, R.S.O., Cumberland
 1900 Wilson, Robt., 10 Victoria Street, Newcastle-on-Tyne
 1896 Wilson, R. Riddell, 17 Queen Victoria Street, London, E.C.
 1892 Wilson, William, Goodyhills, Maryport—*Free Life Member*
 1858 Wilson, William, Borough, Sanderstead, Croydon, Surrey
 1896 Wilton, James F., 143 Hartington Road, Sefton Park, Liverpool—*Free Life Member*
 1899 Winter, Thos., Lotherton Park Farm, Aberford, Leeds
 1901 Wood, Chas., Horringer Cottage, Horringer, Bury St Edmunds, Suffolk
 1876 Wordsworth, R. W., Whitmoor House, Ollerton, Notts
 1898 Wylie, Thos., Ashwell, near Baldock, Herts
 1895 Wyllie, David, Tinsbury, Romsey, Hants
 1896 Young, David, Westover Farm, Clatford, Andover, Hants
 1905 Young, James Arthur, 161 Victoria St., Westminster, London
 1879 Young, R. W., Billeswell Manor, Litterworth
 1878 Young, Wm., Parley Beams Farm, Earls Colne, Essex
 1877 Zetland, Marquis of, K.T., Aske, Richmond, Yorkshire

IRELAND.

- 1893 Ballingall, Robt. Rennie, Adare, Limerick
 1904 Bland, Hum, Kilquade, Greystones, Ireland
 1866 Bruce, Robert, Royal Dublin Society, Dublin
 1873 Campbell, Geo., Kilkea, Mageny, Co. Kildare—*Free Life Member*
 1892 Campbell, J. R., Department of Agriculture, Dublin—*Free Life Member*
 1892 Duncan, James L., Agricultural Station, Clonakilty, Co. Cork—*Free Life Member*
 1877 Fennessy, Thos., Grange Villa, Waterford
 1902 Fisher, Peter, 296 Shankhill Road, Belfast
 1876 Gilchrist, And., Grovedale, Golden Ball, Co. Dublin
 1884 Goulding, Sir W. J., "Millicent," Sallins, Co. Kildare
 1891 Greenbank, Jonathan C., Camla House, Monaghan
 1899 Hinchelliff, Joseph H., Department of Agriculture, Upper Merrion Street, Dublin—*Free Life Member*
 1905 Lane, B. H., Rush Hall, Limavady, Londonderry

- 1876 Maconchy, J. A., Kildare Street Club, Dublin—*Free Life Member*
 1892 Mettam, A. E., Veterinary College of Ireland, Dublin
 1900 Pimlott, James, Department of Agriculture, &c., 4 Upper Merrion Street, Dublin—*Free Life Member*
 1906 Raffan, Jas., Fota Farm, Carrigtwohill, Co. Cork
 1896 Robertson, Andrew R., Department of Agriculture, Upper Merrion Street, Dublin—*Free Life Member*
 1871 Roy, Fred Lewis, Wellpark, Oughterard, Co. Galway
 1902 Simpson, David S., Department of Agriculture, Ballyhaiss, Co. Cavan
 1900 Strachan, James, Land Steward, Annegrove, Carrigtwohill, Co. Cork
 1898 Wade, Thomas, Newcastle West, Co. Limerick—*Free Life Member*
 1900 Watson, Walter, Gowran Grange, Naas, Co. Kildare
 1892 Wilson, James, jun., Royal College of Science, Dublin—*Free Life Member*
 1900 Wood, James, Melfort, Cowper Road, Rathmines, Dublin—*Free Life Member*

THE COLONIES.

Admitted

- 1893 Anderson, George H., 529 Spence Street, Winnipeg
- 1908 Appus, Wm., B.Sc., Department of Agriculture, Adelaide, South Australia
- 1887 Banerjee, N. N., Calcutta—*Free Life Member*
- 1888 Basu, G. C., 196 Bowbazar St., Calcutta—*Free Life Member*
- 1876 Bean, William, Rosebank, Winnipeg, Manitoba
- 1881 Blyth, A. H., Frankfield, Manitoba
- 1851 Bogie, John, Auckland, New Zealand
- 1899 Brown, Ernest C., 488 Young Street, Winnipeg, Canada
- 1876 Brown, J. H., Wairoa, Napier, New Zealand
- 1864 Brydon, James, Pleasant Point, Timaru, New Zealand
- 1864 Brydon, Herbert, Langley, Rakai, *vid* Christ Church, New Zealand
- 1879 Brydone, W. S., Dunedin, New Zealand
- 1874 Burn, Forbes, Coldstream, Hinds, Canterbury, New Zealand—*Free Life Member*
- 1879 Cantile, Charles A., Natal
- 1901 Carlyle-Bell, A., The British Colony, Battleford, Canada
- 1902 Churnside, George Thomas, Werribee Park, Melbourne, Australia
- 1868 Craze, The Hon. R., Chapelton, Jamaica
- 1870 Craig, Robert, South Africa
- 1872 Currie, James J., Blinkbonny, Birtle, Manitoba
- 1894 De la Mothe, Joseph T., Grand Bacolet Estate, St David's, Grenada, West Indies—*Free Life Member*
- 1900 Denovan, Robt., Dominion City, Manitoba, Canada
- 1888 Driesberg, Christopher, Principal, Agricultural College, Colombo, Ceylon—*Free Life Member*
- 1894 Duff, J. K. Mackenzie, South Africa
- 1894 Duncan, D. J. Russell, Corporation Offices, Port Arthur, Ontario, Canada
- 1898 Dunn, Wm., Tobacco Creek, Miami, Manitoba, Canada
- 1901 Edgar, John Ingram, District Veterinary Surgeon, c/o Resident Magistrate, Pietersburg, Transvaal, S.A.
- 1895 Forrest, James, Cowichan Station, Victoria, British Columbia
- 1904 Fowle, Patrick, N.D.A., N.D.D., Natal Creamery, Mool River, Natal, South Africa
- 1870 Gordon, R. W., British Columbia (c/o John Gibson, Howford, Peebles)
- 1874 Hamilton, W. C., Lumsden, Regina, Assa., Canada
- 1864 Harris, Richard H., Woodside, Papaitoi, Auckland, New Zealand
- 1900 Hattrick, J. M., 7 & 9 Bridge Street, Sydney, Australia—*Free Life Member*
- 1902 Hodson, F. W., Live Stock Commissioner, Department of Agriculture, Ottawa, Canada
- 1897 Holm, Alex., jun., Experimental Farm, Potchefstroom, Transvaal
- 1905 Holme, Arthur E., Polela, Natal, S.A.
- 1872 Irving, Samuel, New Zealand
- 1902 Jack, J. Noble, Principal, Agricultural College, Elsenberg, Mulder's Vlei, South Africa
- 1900 Jackson, William, Windsor Castle, Annotto Bay, Jamaica, B.W.I.—*Free Life Member*

Admitted

- 1893 Knight, John, Mayfield Park, Birkenhead, Auckland, New Zealand
- 1875 Leithhead, James, Takapan, Hawke's Bay, New Zealand—*Free Life Member*
- 1893 Little, Jas., jun., Post Office, Olive, Hawke's Bay, New Zealand
- 1900 Lloyd-Williams, W. R., Department of Agriculture, H.M. Customs Building, Wellington, New Zealand—*Free Life Member*
- 1885 Lowrie, William, Prof. of Agriculture, Roseworthy, South Australia—*Free Life Member*
- 1885 Macdonald, A. C., Department of Agriculture, Pretoria, Transvaal—*Free Life Member*
- 1891 M'Dougal, Jas., Bonnyrigg, St Andrews, New Zealand
- 1871 M'Dougall, J. W., Peninsular Cottage, Athertley Junction P. O., Ontario, Canada
- 1884 Marnott, Thos. E., Brookdale, Polela, Natal, S.A.
- 1897 Mason, William G., Manager, Lobatsi Farms, Lobatsi, Bechuanaaland Protectorate, South Africa—*Free Life Member*
- 1873 Miller, Colin W., Luffness, Mirani, *vid* Mackay, Queensland
- 1883 Mollison, James, Deputy Director of Agriculture, Poona, Bombay, India
- 1880 Moos, N. A. F., Director, Government Observatory, Bombay—*Free Life Member*
- 1890 Mudie, T. E., City Engineer's Office, Brandon, Manitoba, Canada
- 1878 Mundell, Walter, Tourisfield, Brandon, Manitoba
- 1901 Munro, Duncan, Post Office, Martinborough, Wellington, New Zealand
- 1888 Mutter, Major J. M., Somenos Ranch, Somenos, B. and N. Reg., Victoria, B.C., Canada
- 1898 Nobbs, Eric A. (Ph.D., Giessen), Department of Agriculture, Cape Town—*Free Life Member*
- 1890 Potts, George, Grey College, Bloemfontein, Orange River Colony
- 1875 Pringle, A. T., Tattersall's Chambers, Hunter Street, Sydney, N.S.W.
- 1898 Rackham, Stanley, Lloydminster, Sack, N.W.T., Canada—*Free Life Member*
- 1871 Richmond, Thos., The Blue House, Schantz, Ramleh, Egypt
- 1874 Robertson, William, Watino Road, Pihama, North Island, New Zealand
- 1859 Robertson, W. M., King Street, Chatham, New Brunswick, Canada
- 1899 Sampson, Hugh O., P.O. Box 434, Pretoria
- 1875 Scobie, N. F. Feorlig, Fort-Macleod, N.W.T., Canada
- 1880 Scott, Charles, South Africa, care of John Scott, Detective Department, Central Police Chambers, Glasgow
- 1892 Scheuit, Louis C., Santa Rosa, Arima, Trinidad—*Free Life Member*
- 1890 Shaw, Alex., Plume Rancho, Woolchester, Alberta, Canada
- 1888 Shepherd, John, Desbarats, Algoma, Canada
- 1895 Smith, A. Rae, Farm Manager, Government School of Agriculture, Elsenberg, Mulder's Vlei, Cape Colony
- 1907 Smith, Wm., jun., Dairy Expert, Quarter-master-General's Department, Simla, India

Admitted

- 1898 Trotter, John, The Sudan Experimental Plantation Syndicate, Ltd., Zeidab, Sudan—*Free Life Member*
 1873 Turner, Peter, 651 Church Street, Toronto, Ontario, Canada
 1874 Walker, R. B., Queensland
 1900 Watt, James W., Sinaluta, Sask, Canada
 1900 Watt, John A., Sinaluta, Sask, Canada

Admitted

- 1890 White, Alexander, Wonderboom, Pretoria, South Africa
 1879 Wilson, John, jun., Gilbrea, Oakville, County Halton, Ontario—*Free Life Member*
 1853 Witherspoon, Archibald, West Oxford, Canterbury, New Zealand

FOREIGN COUNTRIES.

- 1880 Anvik, E. A., Ostenso, Hardanger, Norway
 1882 Alexander, A. S., Evanston, Illinois, U.S.A.—*Free Life Member*
 1876 Anderson, R. Lang, Manager, The Aboukir Company, Limited, Ramleh, Egypt—*Free Life Member*
 1864 Arbuthnot, Hon. Mrs. Norway
 1881 Auld, R. G., Bishop Crescent, Chicago, U.S.A.
 1868 Baird, Arthur E., Brussels
 1842 Booth, James G., Seed Merchant, Hamburg
 1878 Bramwell, John, River Plate Trust Loan and Agency Co., Avenida de Mayo, Buenos Ayres—*Free Life Member*
 1871 Bruce, George C., Staunton, Virginia, U.S.A.
 1864 Cotesworth, Robert, Cannes, France
 1876 Cramer, Donald, Estancia San Alonzo, Estaciones Bivio, F.C. Ensenada, Buenos Ayres
 1883 Croil, Thos., North Western Sledge Co., Milwaukee, Wisconsin, U.S.A.
 1874 Cruickshank, George, 243 Warsaw Avenue, Chicago
 1899 Dellschaft, A. H., The Aboukir Co., Ltd., Blue House, Schutz, Ramleh, Alexandria, Egypt—*Free Life Member*
 1880 Dundas, T. G., 39 North State Street, Chicago
 1876 Fleming, D. G., Hacienda de San' Isidro, Villa Coronados, Jimenez, Chihuahua, Mexico
 1899 Fraser, George M., Estancia "La Germania," Estacion General Pinton, F.C.O., Argentina
 1898 Fraser, Samuel, School of Agriculture, Agricultural Department, Cornell University, Ithaca, New York—*Free Life Member*
 1855 French, J., Sortkjar, Kvissel, Denmark

- 1873 Giglioli, Italo, Director of the Royal Agricultural Station, Rome—*Free Life Member*
 1871 Haggie, Henry, Roseburg, Douglas Co., Oregon, U.S.
 1896 Lawson, George, Cabana San Blas, Cazon, Buenos Ayres
 1876 Logan, J. W., M.I. Mech.E., Representative, P.O. Box 2087, Marshall's Buildings, Johannesburg, S.A.
 1879 Mackenzie, Murdo, Trinidad, Colorado, U.S.A.
 1883 Macpherson, John, Corner of 27 and J. Streets, San Diego Co., California, U.S.A.
 1860 Mein, N. A., Hotel de Emperours, Boulevard, Dumbachago, Nice
 1861 Morison, James, Topoka, Kansas
 1878 Nonnen, J. E., Norway—*Free Life Member*
 1893 Peter, John Stewart, San Francisco del Ole, Mansilla, Entre Rios, Buenos Ayres
 1866 Shiels, George, Monett, Mo., U.S.A.
 1897 Sproat, Hugh, Thurman, via Mountain Home, Elmore Co., Idaho, U.S.A.—*Free Life Member*
 1887 Steele, Daniel, Agricultural Manager, Lake Copais Company, Ltd., Athens Agency, Athens, Greece—*Free Life Member*
 1869 Tweeddale, George W., Ivy Hill, Warminster, Nelson County, Virginia, U.S.
 1871 Tweedie, Richard, The Forest, Clydesdale Stud Farm, Douglas, Kansas
 1805 Vuigner, Raymond, 46 Rue de Lille, Paris
 1885 Wallace, Williamson, Egyptian College of Agriculture, Ghizeh, Cairo, Egypt
 1852 Watson, William, Beecher Wills, Illinois, U.S.

MEMBERS WHOSE RESIDENCES ARE UNKNOWN.

[Members knowing the present Address of the following Gentlemen, or being aware of their Death, will please communicate with the Secretary, 3 George IV. Bridge, Edinburgh.]

Admitted

- 1882 Aikman, Thomson, late 5 Princes Square, Glasgow
- 1885 Alcock, John, late Surveyor, Keith
- 1883 Allan, Gavin, late 54 Old Dumbarton Road, Glasgow
- 1899 Allison, Alex., late Cult Mill, Ladybank
- 1898 Amos, John, late Alderston, Haddington
- 1881 Anderson, W. M., late Belmont, Dalkeith
- 1899 Ash, P. C., late Alderstone, West Calder
- 1899 Baillie, Alex., late East Mains of Inghishton, Ratho Station
- 1901 Bain, A. T. N., late 4 Falcon Square, Inverness
- 1880 Balfour, J. H., late 7 Glencairn Crescent, Edinburgh
- 1876 Beedie, James, late The Mains, Fraserburgh
- 1895 Bell, Robt., M.D., late Glenae, Dumfries
- 1882 Beresford, J. G. M., late of Macbiehill, La Mancha
- 1882 Bertram, A. D., late Kerswell, Carnwath
- 1888 Bertram, Hugh, late Edinburgh
- 1900 Berwick, Wm., late Pathcandle, Collessie
- 1883 Boden, W. F., late Kinsteary Lodge, Nairn
- 1893 Brewster, John, late Newhall, Crail
- 1880 Broad, Anthony, late Edinside Road, Kelso
- 1881 Buchanan, Angus, late Kilvarrie, Connel
- 1882 Burton, Dr M. B., late Orwell, Lindley, Huddersfield
- 1882 Cameron, Donald, late Mossfield, Oban
- 1891 Cameron, John, late Culreach Mains, Nethy Bridge
- 1891 Campbell, Alex. E., late Duilletter, Dalmally
- 1880 Chaplin, Captain T. R., late Lawhead House, Carnwath
- 1881 Chirnside, John, late 48 Albany Street, Edinburgh
- 1893 Clark, John G., late Mossburnford, Jedburgh
- 1898 Coles, Douglas, late Drimnatoran, Strontian
- 1898 Corry, R. F., late Ardveich, Lochearnhead
- 1890 Craig, James, late The Banks, Newdigate, Surrey
- 1908 Croll, John, late Solicitor, Aberdeen
- 1894 Davidson, D. J. Russell, late 29 Victoria Street, London
- 1872 Dewar, David, late Murrays, Ormiston
- 1901 Donald, D. J., late Dufftown
- 1883 Dowall, J. F., late Kelly Bleachfield, Arbroath
- 1898 Duke, Guy, late Braehead, Kilmarnock
- 1884 Dunn, James, late Gilling Grange, Richmond, Yorks
- 1882 Duncan, Robert, late Berwick Farm, Stamford River, Essex
- 1886 Farish, Jas., late 463 Mile End Road, London, E.
- 1890 Farmer, A. Douglas, late Kinkell, St Andrews
- 1904 Findlay, I. B., late Union Street, Aberdeen
- 1870 Forbes, C. W. L., late Aberfeldy

Admitted

- 1896 Forrest, T. L., late Bankhead, Alyth
- 1888 Fowler, John, late 2 Grantly Gardens, Glasgow
- 1900 Fraser, Alex., late Montrave, Leven
- 1800 Fulton, James, late Balinoe, Oban
- 1896 Garden, Norman M'Leod, late Gollanfield
- 1896 Gilchrist, Wm., late Leuchars, Elgin
- 1871 Gillespie, Alex., late Balmeadowside, Collessie
- 1885 Gordon, James G., late Elmwood, Inverness
- 1890 Gourlay, Henry, late Balingry House, Dundee
- 1884 Gramme, R., late of Garvock, Bridge of Earn
- 1899 Harrison, William S., late Agricultural College, Aspatria—*Free Life Member*
- 1905 Hendry, Paul, late Gartmore
- 1894 Hunter, Jas., late 173 King Street, Aberdeen
- 1893 Husband, Thomas R., late Bangour, Uphall
- 1898 Jackson, Thos. D., late Live Stock Salesman, Perth
- 1895 Jamieson, Robt., late Broughton House, Herne Hill, London
- 1893 Johnston, George, late Mosesfield, Springburn, Glasgow
- 1899 Jones, A. W., late Wester Gallet, Dunfermline
- 1873 Jukes, R. F., late Harley, Much Wenlock—*Free Life Member*
- 1890 Kennard, Cecil, late Tormore, Broadford, Skye
- 1808 Kennedy, Daniel, late Kelso
- 1881 Kerr, Thomas, late Forehill, Caputh
- 1905 Kirk, Thos., late Mount Melville, St Andrews
- 1891 Kirwan, Major W. F. Maitland, late of Gelston, Castle-Douglas
- 1889 Laidlaw, Thomas R., late Chrishall Grange, Royston, Herts
- 1897 Leighton, John, late of Balglassie, Brechin
- 1898 Leslie, John, late Ashburton, Devon—*Free Life Member*
- 1884 Lindsay, James (late Wester Haprew, Stobo), Australia
- 1890 Lyall, Robert J., late Powis, Montrose
- 1884 M'Cowan, George, late Glenmanno, Penpont, Thornhill
- 1841 Macdonald, Lieut.-Gen. Alister M'Ian, late 27A Park Lane, London, W.
- 1898 Macdonell, Jas. Sidgreaves, late Morar, Arisaig
- 1899 M'Intyre, Peter, late Prestonhall, Dalkeith
- 1883 Mackenzie, Colin Lyon, late St Martins, Braclangwell, Invergordon
- 1896 Mackinlay, James, late Balnahanait, Glenlyon, Aberfeldy
- 1904 MacLagan, Norman, late Courthill, Kelso
- 1896 Marjoribanks, Hon. Coutts, late Moniak House, Beaulieu
- 1886 Maxwell, Wellwood, late of The Forest, New Galloway
- 1901 Menzies, Jas., late Conon, Conon Bridge

Admitted

- 1885 Menzies, John G., late 6 Grosvenor Crescent, Edinburgh
 1899 Middleton, John, late 42 George St., Edin.
 1898 Milne, John, late Annfield, Cardenden
 1894 Mitchell, James S., late St John's Well, Fyvie
 1904 Moffat, Jas., late Malcolmstone, Currie
 1886 Moir, Robert, late Tarty, Ellon
 1898 Morris, Major C. H., late Killnindine, Argyllshire
 1886 Mukerji, N. G., late Bhowanipur, Calcutta—*Free Life Member*
 1870 Mure, Wm. J., late New Club, Edinburgh
 1881 Murray, Captain A. B., late 61 Nevern Square, London
 1879 Nairne, T. G., late Dunsinnan, Perth
 1900 Nicol, Arthur P., late Craigisla, Alyth
 1892 Noel, Ernest, late Lydhurst, Haywards Heath, Sussex
 1877 Paterson, John, late Meadowspott, Dalkeith
 1897 Pattison, Walter, late Wallhouse, Bathgate
 1893 Pender, Jas., late Cawdor Quilt, Maryhill
 1882 Pollock, John, late Pollockshaws
 1892 Pottinger, Sinclair, late Gremista, Lerwick
 1881 Powrie, Archibald, late Lairwell, Perth
 1889 Raeburn, Norman, late 49 Manor Place, Edinburgh—*Free Life Member*
 1884 Rain, Rev. Thos., late Hutton Manse, Lockerbie
 1900 Reid, Wm., late Dunsinnan Estate Office, Perth
 1897 Rennie, Wm., late Petterden, Tealing, Dundee
 1900 Robertson, Alex., jun., late Lethendry, Cromdale
 1882 Russel, James, late Dundas Castle, Queensferry
 1889 Russell, Thos., late Kellie Farm, Wemyss Bay
 1899 Salomons, P. A., late Reidstone, Drongan
 1898 Scott, Chas. C., late Breconside, Moffat
 1899 Scott, D. W., late Burnside, Alyth

Admitted

- 1889 Scott, Hon. Henry J., late Killharoe, Wigton, Cumberland
 1889 Scott, Jas., late Inveralmond House, Perth
 1901 Sinclair, Donald, late Dochcarty, Dingwall
 1898 Smith, Arch., late Morham Mains, Haddington
 1885 Smith, Arthur, late Oakbank Cottage, Kingsgate, Aberdeen
 1892 Stephen, D. K., late Commieston, Montrose
 1887 Stirling, James, late Tamano, Braco
 1885 Syme, David F., C.A., late 81 St Andrew Square, Edinburgh
 1895 Thomas, Gwyn R., late West Hampstead, London
 1891 Tivendale, James, late Garden Cottage, Cessnock, Galston
 1884 Todd, John, late Tinwald Shaws, Dumfries
 1894 Torrance, T. A., late Kippielaw, Dalkeith
 1889 Tress, George Russell, late Whitelee, St Boswells
 1894 Tress, Wm. Maxwell, late Faughill, St Boswells
 1888 Vincent, E. H., late Lauder Barns, Lauder
 1888 Wallace, John, late 273 Argyle Street, Glasgow
 1900 Warden, John S., late Wester Cowden, Dalkeith
 1894 Watson, David, late Burnthill, Pitelgo
 1884 Watson, W. H., late Ruthven, Coldstream
 1894 Watt, Geo., late Coralhill, Fraserburgh
 1901 Wight, Walter J., late Dollarbank, Dollar
 1896 Will, Alex., late Clepington, Dundee
 1884 Williamson, Alex., late Chesterhall, Wiston, Biggar
 1888 Wilson, John, late Erskine, Bishopton
 1888 Winton, Alex., late Viewhill, Ardersier
 1881 Woodroffe, D., late Chase View, Rugeley
 1897 Wylie, Alex., late Cravens, Wemington, Leams

TOTAL NUMBER OF MEMBERS, 6534.

DIPLOMA HOLDERS, FREE LIFE MEMBERS.

Those marked with an * are also holders of the First Class Certificate in Forestry.

By a By-law passed in 1878, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma became eligible to be elected Free Life Members of the Society.

This arrangement terminated in 1900, when the Highland and Agricultural Society of Scotland and the Royal Agricultural Society of England discontinued the independent Examinations in Agriculture held by the two Societies, and instituted in their stead a Joint-Examination for a National Diploma in Agriculture (N D A.)

Admitted

- 1899 Abram, Laurence, County School, Llando, So Wales
 1879* Aitken, John M., Norwood, Lockerbie
 1882 Alexander, A. S., Evanston, Illinois, U S A
 1898 Allan, Robert, Polkemet, Whitburn
 1900 Allison, Herbert W., c/o Mt Short, Home Farm, Ingestre, Stafford
 1876 Anderson, R. Lang, Manager, The Aboukir Co., Limited, Ramleh, Egypt
 1897 Ashby, S. F., 110 Liverpool Road, Birkenhead, Southport
 1878 Ashdown, A. H., M R A C, Uppington, Wellington, Salop
 1887 Banerjee, N. N., Calcutta
 1888* Bardgett, John, 22 Broughton Street, Edinburgh
 1896 Barron, James, Heathcote Farm, Warwick
 1888 Basu, Giris Chandra, 196 Bowbazar St., Calcutta
 1884 Benson, R. A., Duchy of Cornwall Office, Liskeard, Cornwall
 1885 Birch, Walter de Hoghton, Hoghton Estate Office, Walton Hall, Preston
 1893 Borland, John Kennedy, c/o C Visser, Vendutie Kop, P O Box 27, Jagersfontein, Orange River Colony
 1878 Bramwell, John, River Plate Trust Loan and Agency Co., Avenida de Mayo 645, Buenos Ayres
 1899 Brown, Ernest C., 208 Good Street, Winnipeg, Canada
 1891 Brown, John, Hillhead Farm, Airdrie
 1873 Browne, Colville, M R A C, 2 Plantation Cottages, Havtate, Kent
 1900 Bruce, William, B Sc, East of Scotland College of Agriculture, Edinburgh
 1878 Brydon, Robert, The Dene, Seaham Harbour
 1896 Burdett, William, Grange Hill, Bishop Auckland
 1874 Burn, Forbes, Coldstream, Hinds, Canterbury, New Zealand
 1900 Burton, John H., County Education Office, Weston-super-Mare
 1882 Buttar, Thos. A., Corston, Coupar-Angus
 1878 Campbell, George, Kilkea, Mageny, Co Kildare
 1892 Campbell, J. R., Department of Agriculture, Dublin
 1885 Campbell, Robert J., Ouil, Castle-Douglas
 1876 Cannon, James, Uricoch, Castle-Douglas
 1878 Carr, Robert, Grindon, Northam, Northumberland

Admitted

- 1887 Carrington, George, M R A C, Missenden Abbey, Great Missenden, Bucks
 1884 Chilton, H. E., Pelham, 1 Lion Place, Boithwick Hill, Bath
 1899 Cole, James Thomson, Fell Court, Torquay
 1891 Coward, T. A., Northallerton
 1890 Crabtree, Henry, Moss House, Heywood
 1879 Craig, John, Innergeldie, Comrie
 1880 Craig, William, Cornemuckloch, Amulree
 1898 Cryer, John, 182 Cliff Wood Mount, Bradford Road, Shipley, Yorks
 1896 Daine, Mrs (nee Fraser) Rupert Farm, Huyton, Liverpool
 1894 Daine, Herbert S., Woolfall Hall, Huyton, Liverpool
 1887 Davies, Edward Smith, Seedgreen Park, Stourport, Worcestershire
 1894 De la Mothe, Joseph, Grand Bacolet Estate, St Andrew's Parish, Grenada, West Indies
 1899 Dellschaft, Adolf H., The Aboukir Co., Ltd., Blue House, Schutz, Ramleh, Alexandria, Egypt
 1888 Dickson, Thos. A., Estate Office, Overstone Park, Northampton
 1895 Dixon, Albert Alex., Tanwood House, Chaddesley Corbett, near Kidderminster
 1888 Drieberg, Christopher, Principal Agricultural College, Colombo, Ceylon
 1892 Duncan, James L., Burghdale, Knock, Rothesay
 1878 Dunlop, Andrew T. L., Lyonston, Maybole
 1878 Elliot, Prof Thomas John, M R A C, The Pebbles, Glebe Lands, Hunstanton, Norfolk
 1882 Ensor, Thomas Henry, 54 South Street, Dorchester
 1891* Fleet, W. J., Imatra, King's Road, Bournemouth
 1891 Forbes, A. C., Armstrong College, Newcastle-on-Tyne
 1895* Fraser, Alex., Burnside, Alves, Forres
 1896 Fraser, Miss Margaret N (Mrs Daine), Rupert Farm, Huyton, Liverpool
 1898 Fraser, Sam., School of Agriculture, Agricultural Department, Cornell University, Ithaca, New York
 1900 Galloway, William, Blaxfield Road, Larnark

Admitted

- 1885 Gbb, Robert Shirra, Boon, Lauder
 1873 Gghoh, Italo, M R A C, Director of the
 Royal Agricultural Station, Rome
 1889 Gilchrist, D A, Armstrong College,
 Newcastle on Tyne
 1873 Goddard, H R, M R A C, Hammet
 Street, Taunton
 1884 Goodfellow, Alex, High School, Kelso
 1881 Gover, Lawford D, Clay Point, Flushing,
 Falmouth
 1895 Greenwood, Thomas, M D, County
 Asylum, Radcliffe, Nottingham
 1892 Greig, Robert Blyth, Agricultural De-
 partment, Manschal College, Aber-
 deen
 1898 Gwillam, Robt, Agricultural College,
 Aspatria
 1898 Hacking, Thos, Agricultural School,
 Byjods Hall, Dunmow, Essex
 1887 Hag, Robt, Dollarfield, Dollar
 1888 Hamilton, H W, Lilleshall Newport,
 Salop
 1884 Hardy, C W L, Gittesham, Honiton
 1899 Harrison, Wm S, late Agricultural Col-
 lege, Aspatria
 1900 Hattick, J M, 7 and 9 Bridge Street
 Sydney, Australia
 1878 Henderson, John, Kingsmere, Harpen-
 den, Herts
 1874*Henderson, Richard, Portland Estates
 Office Kilmarnock
 1881 Henderson, W, East Eltrington, Haydon
 Bridge, Carlisle
 1896 Hewison, Robert, Agricultural College,
 Aspatria
 1873 Hill, Arthur James, M R A C, St
 Keverne, Harrow on the Hill
 1894 Hill, Henry F, Agricultural College,
 Aspatria
 1899 Hinchchiff, Joseph H, Department of
 Agriculture, Upper Merrion Street,
 Dublin
 1897 Holm, Alex., jun, Experimental Farm,
 Potchefstroom, Transvaal
 1898*Home, J H Milne Broomlands, Kelso
 1886*Hooper, Cecil H, Church House, Shore-
 ham, Sevenoaks, Kent
 1897 Howie James L, Clachan, Roseneath,
 Dumbartonshire
 1879 Hunt, A E Brooke, Merton Grange,
 Slough Bucks
 1895 Hurley, George, County Technical Office,
 Stafford
 1888 Inman, A H, care of Glyn, Mills, Currie,
 & Co, 67 Lombard Street, London,
 E C
 1891 Irving, R J, Balmaclane, Balhulung
 1900 Jackson, William, Windsor Castle,
 Annotto Bay, Jamaica, B W I
 1900 Jardine, Warburton O, 20 Doune Ter-
 race, North Kelvinside, Glasgow
 1890 Jeffrey, John J, Blackaddie, Sanguhar
 1896 Johnstone, James D, Orange Lane,
 Montrose
 1893 Jones, C B, Durham College of Science,
 Newcastle on Tyne
 1873 Jukes, R F, M R A C, late Harley,
 Much Wenlock
 1875 Kennedy, William, M R A C, Lewes and
 County Club, Lewes, Sussex
 1889 Ledingham, J K, North Flady Turiff
 1898 Leslie, John, The School of Agriculture,
 Ashburton, Devon
 1896 Linton, Andrew, Nairobi, British East
 Africa

Admitted

- 1891 Lister, Joseph, Fern Cottage, Great
 Broughton, Cockermonth, Cumber-
 land
 1900 Lloyd Williams, William R, Depart-
 ment of Agriculture, H M Customs
 Building, Wellington, New Zealand
 1885 Lowrie, Wm, Prof of Agriculture, Rose-
 worthy, So Australia
 1876 Maconchy, John Arthur, M R A C,
 Kildare Street Club, Dublin
 1878 M'Connell, Primrose, Northwycke,
 Southminster, Essex
 1878 M'Cracken, William, Crewe
 1898 M'Creath, James, West Cornwall
 Creamery, Lelant, R S O, Cornwall
 1885 Macdonald, A C, Department of Agri-
 culture, Pretoria, Transvaal
 1900 Mackenzie, Edward J, Hilton Farm,
 Tain
 1887 Matland, Harry Reid, Little Methlick,
 Methlick
 1884 Malcolm, John, M R C V S, Birming-
 ham
 1880 Martin, Wm, Dardarroch, Dumfries
 1877 Mason, William G, Manager, Lobats
 Farms, Lobatsi, Bechuanaland Pro-
 tectorate, South Africa
 1889 Middleton, T H, Board of Agriculture,
 4 Whitehall Place, London, S W
 1878 Milne, John, Inverurie
 1886 Moos, N A F, Director, Government
 Observatory, Bombay
 1888 Muir, James, Rubers Law, West Byfleet,
 Surrey
 1886 Mukerji, Nitya Gopal, late Bhowampur,
 Calcutta
 1891 Munro, Duncan, 3 Dalrymple Pl, Edin
 1875 Murdoch, George Burn, M R A C,
 Gartnacaber, Doune
 1891 Murray, John, B So, Bellevue, Beeston,
 Notts
 1875 Murray, Robert W E, Blackford House,
 Blackford Avenue, Edinburgh
 1899 Newton, Thos, The Bent, Warburton,
 Warrington
 1896*Noobs, Eric Arthur, Department of
 Agriculture Cape Town
 1878 Nonnen, John Edward, Norway
 1878 Norman, Wm, M R A C, Sattenham,
 Milford, Godalming, Surrey
 1882 Norrie William, Canrhill, Monquhitter,
 Turiff
 1894 Paterson, John Waugh, Herne Poplar,
 Toddington Beds
 1897 Peet, John O, B Sc, Shurehall, Here-
 ford
 1888 Perkins, Walter Frank, M R A C, Poits
 wood House, Southampton
 1900 Pimlott, James, Department of Agri-
 culture, & c, 4 Upper Merrion Street,
 Dublin
 1899*Potts, George, Grey College, Bloemfon-
 tain, Orange River Colony
 1877 Pudney, R L, M R A C, Winscombe,
 Somerset
 1889 Purefoy, Captain Edward B, The White
 House, Buckingham
 1898 Rackham, Stanley, Lloydmnster, Sack,
 N W T, Canada
 1889 Raeburn, Norman, late 49 Manor Place,
 Edinburgh
 1882*Reid Peter, Port Ellen, Islay
 1898 Robb, Daniel, 6 Blythswood Square,
 Glasgow
 1896 Robertson, Andrew R, Department of
 Agriculture, Upper Merrion St, Dublin

Admitted

- 1888 Robertson, Chas. T. A., Little Horringer Hall, Bury St Edmunds
 1873 Rome, Thomas, M.R.A.C., Glebe Cottage, Goring-on-Thames
 1900 Rushton, John C., Rush Slade, Hilderstone, Stone, Staffs
 1899 Sampson, Hugh C., P.O. Box 434, Pretoria
 1881 Sandison, Marcus, Hempriggs, Wick
 1892 Scheult, L. C., Santa Rosa, Arima, Trinidad
 1894 Seton, Robert S., The Yorkshire College, Leeds
 1890 Sessions, Harold, Ifton Manor, near Newport, Mon.
 1878 Sharp, J. J., Ewington, Gifford
 1898 Sim, James, Ness Bank, West Cults, Aberdeen
 1895 Smith, David Lister, Bierley Lane, Dudley Hill, Bradford
 1882 Smith, E. Hedley, B.L., Whittinghame, Prestonkirk
 1900 Smith, Fred., 115 Brook Street, Macclesfield, Cheshire
 1888 Smith, J. R. G., Mowhaugh, Kelso
 1873 Smith, William B., C.E., M.R.A.C., "Goodrest," Emsworth, Hants
 1892 Solomon, F. O., Daunkey's Agricultural School, West Lavington, Devizes, Wilts
 1887*Somerville, William, M.A., D.Sc., D.Cec., 121 Banbury Road, Oxford
 1897 Sproat, Hugh, Thurman, *via* Mountain Home, Elmore Co., Idaho, U.S.A.
 1887 Steele, Daniel, Agricultural Manager, Lake Copais Company, Ltd., Athens Agency, Athens, Greece
 1891 Stevens, Alex. Buchan, Mains of Kilgraston, Bridge of Earn
 1876 Sutherland, Alex., Rampyards, Watton, Caithness
 1895 Thomas, Gwyn Reid, late 3 Sandwell Crescent, West Hampstead, London, N.W.

Admitted

- 1894 Tipper, Charles J. R., 6 Beechwood, The Green, Kendal
 1896 Townshend, Joseph H., Fellougley, nr. Coventry
 1898 Trotter, John, The Sudan Experimental Plantation Syndicate, Ltd., Zeidab, Sudan
 1898 Wade, Thomas, Newcastle West, Co. Limerick
 1897 Wakerley, Fred., The Midland Agricultural and Dairy Institute, Kingston-on-Soar, Derby
 1900 Wale, Bernard N., Brewood, Stafford
 1896 Walker, F. P., South Hill, Southwell, Notts
 1873*Wall, G. Y., M.R.A.C., Durham
 1878 Wallace, Prof. Robert, University, Edinburgh
 1873 Walton, George Kent, Long Compton, Shipston-on-Stour, Warwickshire
 1894 Ward, Martin Hammond, Col. Gamble's Estate Office, Corporation Street, St Helens, Lancashire
 1883 Watson, H. A., U.F. Manse, Forres
 1881 Weber, F. H., Rokeby, Joker's Green, Caverham, Oxon.
 1894 Weir, James, Woodilee Farm, Lenzie
 1891 White, W. E. C., Carridge, Newbury
 1894 Whittaker, John D., Oxford and Cambridge Club, Pall Mall, London, S.W.
 1898 Williams, David D., University College of Wales, Aberystwyth
 1892 Wilson, James, jun., Royal College of Science, Dublin
 1879 Wilson, John, jun., Glibrea, Oakville, Ontario
 1892 Wilson, William, Goodyhills, Maryport
 1896 Wilton, James P., 143 Hartington Road, Sefton Park, Liverpool
 1900 Wood, James, Melfort, Cowper Road, Rathmone, Dublin
 1882 Wright, Robert F., 6 Blythswood Sq., Glasgow

NUMBER OF FREE LIFE MEMBERS, 180.

HOLDERS OF FIRST-CLASS CERTIFICATE IN FORESTRY, FREE LIFE MEMBERS.

Also those in the above list marked with an *.

- 1895 Annand, John F., Agricultural College, Newcastle-on-Tyne
 1892 Bailhe, William, The Nurseries, Haddington
 1895 Davidson, William, Margam, Port Talbot, So. Wales
 1897 Guthrie, Patrick Hugh, c/o Thomas Guthrie, M.D., 7 Church Road, Tunbridge Wells
 1892 Inglis, Alex., Estate Office, Howcaple Cottage, Rose-on-Wye, Herefordshire
 1892 Loney, Peter, 6 Carlton Street, Edinburgh
 1892 Menzies, John C., Maritime Buildings, Dock Street, Dundee
 1901 Rabagliati, Duncan S., 1 St Paul's Road, Bedford
 1892 Robertson, William, Blinkbonny, Earlston
 1903 Scott, Frank, Dumfries House Mains, Cumnock
 1906 Stockley, William T., Rose Villa, Garswood, near Wigan
 1892 Wilson, John Hardie, D.Sc., F.R.S.E., St Andrews

TOTAL NUMBER, 25.

INDEX

- Aberdeen Show, Proceedings in regard to 390, 396, 400
 Accounts—see Finance
 Adulteration of Seeds Proceedings in regard to, 365, 387
 Agricultural College The Royal, Berlin by James Hendrick, 93
 Agricultural Education Proceedings in regard to, 396, 402—Syllabus Appendix A 12
 Agricultural Research Proceedings in regard to 371
 Agricultural Statistics 291
 Agriculture Board of Proceedings in regard to 372 401
 Alcoholic Drinks in Showyard, Proceedings in regard to 393
 Analyses for Members during 1906, by James Hendrick 145
 Arable Farms, Sheep on, by James Wyllie 147
 Argyll Naval Fund, Abstract of Accounts 380—Proceedings in regard to 397, 400
 Ayrshire Cattle Judging of Proceedings in regard to 357, 352
 Barley Price of, for 1906 305
 Bean Meal Poisonous, Proceedings in regard to 350
 Beans, Poisonous by James Hendrick, 139
 Beans, Price of for 1906, 314
 Bear Wm E The Booming of Fruit Growing, 46
 Berlin The Royal Agricultural College by James Hendrick 93
 Board of Agriculture Proceedings in regard to 392 401
 Botanical Department Report to General Meeting, 397 Appendix A, 35
 Braxy in Sheep Proceedings in regard to 398
 British Woolfanks, The Future of by Right Hon Sir Herbert Maxwell Part 1
 Buchan, Dr Alex Meteorology of 1906, 381
 Butte Agricultural Society Grant to 354
 Butter The Chemical Composition of by Charles Crowther, 55
 Butter Manipulation, Proceedings in regard to, 352 354
 Canals Royal Commission on Proceedings in regard to 345
 Cereal and other Grain Crops of Scotland for 1906, and Meteorology of the Year relative thereto 262
 Cheap Cottages 93
 Cheap Manures Proceedings in regard to 385
 Chemical Composition of Butter, by Charles Crowther 55
 Chemical Department Appendix A, 31
 Clydesdale Memories by Thomas Dyke, 219
 College The Royal Agricultural, Berlin by James Hendrick 97
 Committees for 1906 1907, Appendix A 7
 Conference of Show Officials, Proceedings in regard to 392
 Consulting Engineer Appointment of Prof Stanfield 354
 Cottages, Cheap 93
 Cottages and Gardens Premiums awarded in 1906, 372—Premiums offered in 1907, Appendix A 52
 Crops for 1906 and Meteorology of the Year 262
 Crowther Charles The Chemical Composition of Butter 55
 Dairy Congress, Proceedings in regard to, 391
 Dairy Department Appendix A, 26
 Dairy Investigations in the North East of England, by Prof Douglas A Gilchrist and C Bryner Jones, 114
 Decennial Members 365 389
 Dipping of Sheep Proceedings in regard to, 389
 Directors for 1906 1907, Appendix A, 5
 District Competitions, Premiums awarded in 1906 372—Report to General Meeting, 401—Premiums offered in 1907, Appendix A, 43

- Dykes, Thomas: Clydesdale Memories, 219.
- Edinburgh Corn-Market Grain Tables, 304.
- Edinburgh Show, 1907, Proceedings in regard to, 389, 391, 393, 396, 400—Premiums offered, Appendix A, 55.
- England, Dairy Investigations in the North-East of, by Prof. Douglas A. Gilchrist and C. Bryner Jones, 114.
- Entomological Department, Appendix A, 39.
- Essays and Report, Premiums offered in 1907, Appendix A, 40.
- Examinations, Dates of, Appendix A, 11.
- Exhibitors leading their own Stock, 399.
- Experiments in Crossing Potatoes, by John H. Wilson, D.Sc., 74.
- Farms, Arable, Sheep on, by James Wyllie, 147.
- Farming Methods in Lanarkshire, by Archd. MacNeilage, 161.
- Fertilisers and Feeding-Stuffs Amendment Bill, Proceedings in regard to, 354.
- Finance: Accounts for 1905-1906, 373—Abstract of the Accounts of the Peebles Show, 1906, 378—Abstract of the Accounts of the Argyll Naval Fund, 390—Life Subscriptions, 384, 386, 395, 400—Report to General Meeting, 400.
- Forestry Department: Report to General Meeting, 402—Syllabus, Appendix A, 20.
- Fruit-Growing The Booming of, by William E. Bear, 46.
- Gilchrist, Prof. Douglas A., and C. Bryner Jones: Dairy Investigations in the North-East of England, 114.
- Grain, Prices of, for 1906, 304.
- Grouse Disease Inquiry, Proceedings in regard to, 391.
- Hendrick, James: The Royal Agricultural College, Berlin, 93—Poisonous Beans, 139—Analyses for Members during 1906, 145.
- Highland and Agricultural Society: Proceedings, 332—Constitution, Appendix A, 3—Privileges of Members, Appendix A, 4—Establishment, Appendix A, 5—Meetings, Appendix A, 10.
- Implement Department, Proceedings in regard to, 392.
- Insects, On some Injurious, in 1906, by Dr R. Stewart MacDougall, 178.
- International Dairy Congress, Proceedings in regard to, 391.
- International Institute of Agriculture, Proceedings in regard to, 386.
- Investigations, Dairy, in the North-East of England, by Prof. Douglas A. Gilchrist and C. Bryner Jones, 114.
- Investment, Land as an, by R. E. Turnbull, 24.
- Jones, C. Bryner, and Prof. Douglas A. Gilchrist: Dairy Investigations in the North-East of England, 114.
- Kilmarnock Dairy School, Grant to, 400.
- Lanarkshire, Farming Methods in, by Archd. MacNeilage, 161.
- Land as an Investment, by R. E. Turnbull, 24.
- Life Subscriptions, Proceedings in regard to, 384, 386, 387, 395, 400.
- Liquors, Sale of, in Showyard, 387.
- MacDougall, Dr R. Stewart: On some Injurious Insects in 1906, 178.
- MacNeilage, Archd.: Farming Methods in Lanarkshire, 161.
- Manures, Cheap, Proceedings in regard to, 383.
- Maxwell, Right Hon. Sir Herbert, Bart.: The Future of British Woodlands, 1.
- Meetings, Appendix A, 10.
- Members, Analyses for, during 1906, by James Hendrick, 145.
- Members, List of, Appendix B, 1-79.
- Meteorology of 1906, by Dr Alex. Buchan, 281.
- Milk Record Scheme, Proceedings in regard to, 390, 394.
- Milk Records, by John Speir, 189.
- Motor Cars, Proceedings in regard to, 382.
- National Sheep-Breeders' Association, as to appointment of Judges of Sheep, 382.
- Nomination of Directors, Meetings for, Appendix A, 11.
- Oats, Prices of, for 1906, 307.
- Oats, Trials of, by John Speir, 177.
- Office-Bearers, Appendix A, 5.
- On some Injurious Insects in 1906, by Dr R. Stewart MacDougall, 178.
- Peebles Show, 1906: Report on, 315—Premiums awarded at, 387—Judges, 371—Medal for Machine for sizing Potatoes, 471—Abstract of Accounts, 378—Proceedings in regard to, 382, 383, 384, 385, 386, 396, 400—General Meeting of Members, 393.
- Ploughing Competitions in 1905-1906, Medals awarded, 372—Regulations for, Appendix A, 51.
- Poisonous Bean Meal, Proceedings in regard to, 383.
- Poisonous Beans, by James Hendrick, 139.
- Potatoes, Experiment in Crossing, by John H. Wilson, D.Sc., 74.
- Potatoes, Medal to David Wilson for Machine for Sizing and Cleaning, 371, 392.
- Premiums awarded in 1906, 337—Offered in 1907, Appendix A, 40.
- Prices of Grain for 1906, 304.
- Prices of Sheep, 311.

- Prices of Wool, 313.
 Proceedings at Meetings, 382.
 Publications, Proceedings in regard to, 402.
 Records, Milk, by John Speir, 189.
 Royal Scottish Arboricultural Society, Proceedings in regard to, 383.
 Sale of Intoxicating Liquors in Show-yard, Proceedings in regard to, 387.
 Science Department, Reports to General Meeting, 396, 401.
 Seeds, Adulteration of, Proceedings in regard to, 385, 387.
 Sheep on Arable Farms, by James Wyllie, 147.
 Sheep, Prices of, 311.
 Sheep-Dipping, Proceedings in regard to, 389.
 Show Officials, Conference of, 392.
 Speir, John: Trials of Oats, 177—Milk Records, 189.
 Stanfield, Prof., appointed Consulting Engineer, 384.
 Statistics, Agricultural, 291.
 Stirling Show, 1909, Proceedings in regard to, 394, 401.
 The Booming of Fruit-Growing, by William E. Bear, 46.
 The Chemical Composition of Butter, by Charles Crowther, 55.
 The Future of British Woodlands, by Right Hon. Sir Herbert Maxwell, Bart., 1.
 The Royal Agricultural College, Berlin, by James Hendrick, 97.
 Trials of Oats, by John Speir, 177.
 Turnbull, R. E.: Land as an Investment, 24.
 Veterinary Department: Medals awarded, 372; Appendix A, 20.
 Wallace, Professor, Letters by, 386.
 Wheat, Prices of, for 1906, 304.
 Wilson, David, Medal to, for Machine for sizing Potatoes, 371, 392.
 Wilson, John H., D.Sc., F.R.S.E.: Experiments in Crossing Potatoes, 74.
 Woodlands, British, The Future of, by the Right Hon. Sir Herbert Maxwell, Bart., 1.
 Wool, Prices of, 313.
 Wyllie, James: Sheep on Arable Farms, 147.

ADVERTISING SHEET.

EVERY BREEDER SHOULD USE THE "KILBERRY" CATTLE HERD BOOK.

A Printed and Ruled Book for entering Details of the Owners Private Herd, the result of many years' careful study by one of the well known Highland Cattle Herd Owners. As nearly perfect as can be, and almost automatic in its Register. It is used by many Breeders, and although primarily intended for Highland Cattle, is also suitable for any Pedigreed Herd.

Price 15/6 from the Publishers,

CALDWELL BROTHERS, LIMITED,

11-15 WATERLOO PLACE, EDINBURGH.

FOREST TREES.

Seedlings and Transplanted MILLIONS of ALDER, MAPLE, SYCAMORE BIRCH, BEECH, ~~POPLAR~~ BEECH, HAZEL, COMMON ASH, AMERICAN ASH, BLACK WALNUT, PRIVET, CANADIAN POPLAR, BLACK CHERRY, COMMON OAK RED OAK SCARLET OAK PIN OAK, ACACIA, SWEET BRIAR, DOG BRIAR LIMES ELM, SILVER FIR, SPRUCE FIR BLUE SPRUCE, SITKA SPRUCE, BANKS PINE WHITE PINE, SCOTCH FIR, AMERICAN ARBORVITAE, &c, &c

EUROP. and JAPAN. LARCH, also DOUGLAS FIR and THORN for HEDGES a Speciality.

All from Sandy Soil, with excellent Roots, VERY CHEAP Best Shipping facilities via Hamburg, at Lowest Freight and GUARANTEE FOR SAFE ARRIVAL

Catalogues Free on application The largest Nurseries in Germany SHIPMENTS of 150 MILLIONS of PLANTS ANNUALLY

J. HEINS' SONS, Halstenbek, No. 5, near Hamburg (Germany).

KEITH & CO.,

OFFICIAL ADVERTISING AGENTS TO

**The Highland and Agricultural Society and the Scottish
Estate Factors' Society,**

43 GEORGE STREET, EDINBURGH.

A specialty is made of Estate and Agricultural Advertisements, such as Farms, Mansion Houses, &c, to Let, Estates for Sale, Agricultural Shows, &c

One Copy of an advertisement is sufficient to send for any number of newspapers; and the convenience of having only one advertising account instead of a number of advertising accounts is also a great saving of time and trouble.

SERVANTS' REGISTRY DEPARTMENT.

Employers requiring Servants (Male and Female) of all classes are invited to consult our Registry.

Telegrams—"Promote," Edinburgh. Telephone No. 316.

THE HORSE, CARRIAGE, & GENERAL INSURANCE CO., LIMITED

(THE OLDEST AND LARGEST OFFICE OF ITS KIND IN THE KINGDOM),
CHIEF OFFICE—17 QUEEN VICTORIA STREET, LONDON,

A. WATERS, Managing Director. | R. R. WILSON, Secretary.

INSURE AT BEST TERMS GOING

HORSES and CATTLE against DEATH from ACCIDENT or DISEASE.

BROOD MARES and FOALS. See latest Prospectus for entirely new benefits at reduced rates.

STALLIONS for Year or Season.

CARRIAGES, MOTOR-CARS, and other Vehicles against Accidents.

THIRD PARTY INDEMNITY RISKS.

WORKMEN'S COMPENSATION and EMPLOYERS' LIABILITY RISKS. Special Terms for Farm and Domestic Servants.

PERSONAL ACCIDENT INSURANCE.

Prospectuses and Full Particulars free on application to the
Branch Office for Scotland—

41½ UNION STREET, ABERDEEN.

ALEX. S. WILSON, J.P., Branch Manager.

This Office is honoured with the Patronage of his Majesty the King.

WHITE, BURNS & CO.,

WOOL MERCHANTS, SKINNERS, AND TANNERS,

Established 1832.

BONNINGTON, EDINBURGH.

W., B. & CO. will be pleased to quote prices for all classes of Wool, and forward empty sheets or bags immediately on application.

Butchers and Farmers consigning Skins or Wool can depend on getting highest market prices.

No Commission, use of sheets, or carriage charged, and remittance sent same day as goods received.



DRIFFIELD'S "PIONEER" DISEASE-RESISTING SWEDE AND "VICTOR" HYBRID TURNIP.

Most Reliable Kinds for withstanding "Finger and Toe."
Hardy, Nutritious, Heavy Croppers.

Evidence.—"Pioneer Swede certainly resists disease. Sown in alternate drills, on ground where I have always had disease. They are good. There are none of the other kind, all having vanished."—Mr G. FITZPATRICK, Elgin.
"Of the Pioneer Swede I cannot find one diseased. The turnips sown by the side of them are a complete failure."—Mr J. HAWKINS, Middle Rasen.
"The result from your seed is vastly superior."—Miss COSSAR, Greenknowe, Duns.
"Yours alone are free from disease."—Mr J. SMITH, Corballis, Dublin.
"The Victor Turnips resist disease in a remarkable degree."—Mr J. ROSS, Carnoustie, Turrif.
"Your Pioneer Swede and Victor Turnip are a decided success."—T. VICARY, Esq., Devonshire.

SUPPLIED ONLY IN SEALED BAGS UNDER THE ABOVE TRADE MARK.

Convincing Crop Reports and Particulars on Application.

THOS. N. DRIFFIELD & SONS, Brafferton Seed Farms, YORK.

FOR LANDLORDS, ESTATE AGENTS, AND FORESTERS

Royal 8vo. 2 vols. 42/- net

Illustrated throughout, and with many Plans and Diagrams

THE FORESTER

A PRACTICAL TREATISE ON

BRITISH FORESTRY AND ARBORICULTURE

BY

JOHN NISBET, D.Cc.

Formerly Conservator of Forests, Burma

"Must find a place in all country-house libraries."—*Field*.

For many years 'Brown's Forester' has been the valued handbook of British foresters, and it has had much to do in the training of foresters in Scotland, who still retain much of their supremacy in a craft they have enjoyed for so long a time. The last or sixth edition was published in 1894, and the book now published is practically a new work, in which Dr Nisbet has incorporated, in a condensed and improved form, the essence of all the other books he has written on forestry during the last thirteen years, together with much original matter dealing specially with conditions in the United Kingdom, the whole thus forming a complete treatise giving consideration both to theoretical principles and to practice. In the preface we are further told that "these new volumes are intended to serve as a text-book dealing chiefly with British forestry and arboriculture (two really separate branches of rural economy which have usually been synonymous in Britain), and with the reasonable possibilities there are of improving the existing condition of our woodlands and of planting waste land for the growth of timber on a business principle with a fair prospect of profit."

"Every individual who is interested in forestry will be well advised to secure this excellent work, for it is a veritable encyclopædia of silviculture and arboriculture."—*Estate Gazette*.

"Should be purchased by every landlord, estate agent, and forester. Even the young forester would do well to get a copy and make a thorough study of its contents, for it is by far the best and most elaborate work we possess on the subject."—*Journal of the Land Agents' Society*.

WILLIAM BLACKWOOD AND SONS,

45 GEORGE STREET, EDINBURGH. | 37 PATERNOSTER ROW, LONDON, E.C.

Highland & Agricultural Society of Scotland

RATES OF CHARGES FOR ADVERTISEMENTS IN THE PUBLICATIONS OF THE SOCIETY

PREMIUM LIST—ANNUAL NATIONAL SHOW.

Issued early each year to Proprietors, Farmers, and other Owners of Horses, Cattle, Sheep, Pigs, Poultry, &c., Implement Makers, Engineers, and all likely Exhibitors throughout the United Kingdom.

Page, 7" × 4" (ordinary position),	£6	0	0
Half page,	3	10	0
Quarter page,	2	0	0

CATALOGUE OF STOCK—ANNUAL NATIONAL SHOW.

(Issue—from 5000 to 8000 Copies.)

Sold at 1s. and 6d. to visitors to the Show, which is held in rotation in the leading centres in Scotland, and extends over four days in July.

Page, 7" × 4" (ordinary position),	£4	0	0
Half page,	2	5	0
Quarter page,	1	5	0

THE TRANSACTIONS.

Issued annually in March in a handsomely bound volume, each Member of the Society—over 6000 in number—receiving a copy.

Page, 7" × 4" (ordinary position),	£6	0	0
Half page,	3	10	0
Quarter page,	2	0	0

RATES—In one Publication, *strictly net*; in two Publications, *5 per cent reduction*; and in three Publications—if ordered at same time—*10 per cent reduction*.

Only a very limited number of Advertisements can be accepted for the PREMIUM LIST and the TRANSACTIONS.

Quotations for Special Positions on application.

All Communications regarding ADVERTISEMENTS to be addressed to the Society's Advertising Agents—
Messrs KEITH & CO. (J. M. Munro, Ltd.), 43 George Street, EDINBURGH.

All Orders for Advertisements in the Publications of the Highland and Agricultural Society are accepted subject to the approval of the Secretary of the Society.

JAMES MACDONALD, *Secretary.*

OFFICES OF THE SOCIETY,
3 GEORGE IV. BRIDGE, EDINBURGH.

